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BAKER CEMENT RETAINER — SAVE A WELL

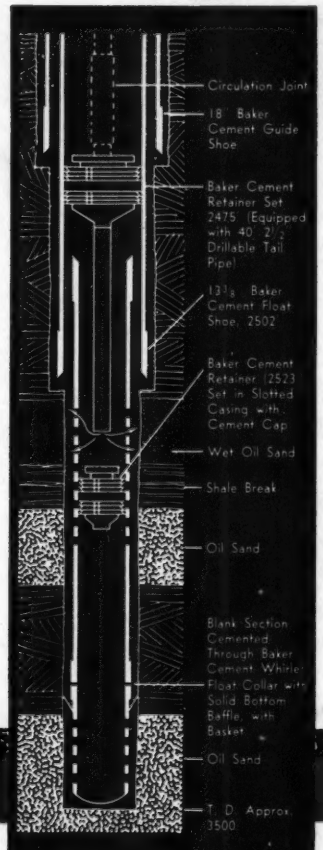
BAKER CEMENT RETAINER

CASE STUDY NO. 407

PROBLEM: *To shut off wet zone behind slotted casing*

METHOD: *Bridge slotted interval with Baker Cement Retainer (as a Bridge Plug) and perform multiple-batch squeeze cement job with second Retainer equipped with 40' (drillable) tail pipe*

RESULT: *Complete water shut-off obtained*


Circulation Joint
18' Baker Cement Guide Shoe
Baker Cement Retainer Set 2475' (Equipped with 40' 2½ Drillable Tail Pipe)
13⅜ Baker Cement Float Shoe, 2502'
Baker Cement Retainer 2523' Set in Slotted Casing with Cement Cap
Wet Oil Sand
Shale Break
Oil Sand
Blank Section Cemented Through Baker Cement Whirler
Float Collar with Solid Bottom Baffle, with Basket
Oil Sand
T. D. Approx. 3500'

Use of Baker Cement Retainers to Blank Off Wet Oil Sand Behind Slotted Casing

• DETAILS •

Field: Maricopa, Calif.
Depth of Well: Approx. 3500'
Depth Retainer Set: 2475'
Breakdown Pressure: 100 #
Final Pressure: 1st. batch— 100 Sax - 800 #
2nd. batch— 100 Sax - 1500 #
Number of Sax Put Away: 200
How Cement Discharged: Through lower end of Tail Pipe into 20' section Slotted Casing

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BAKER CEMENT RETAINER

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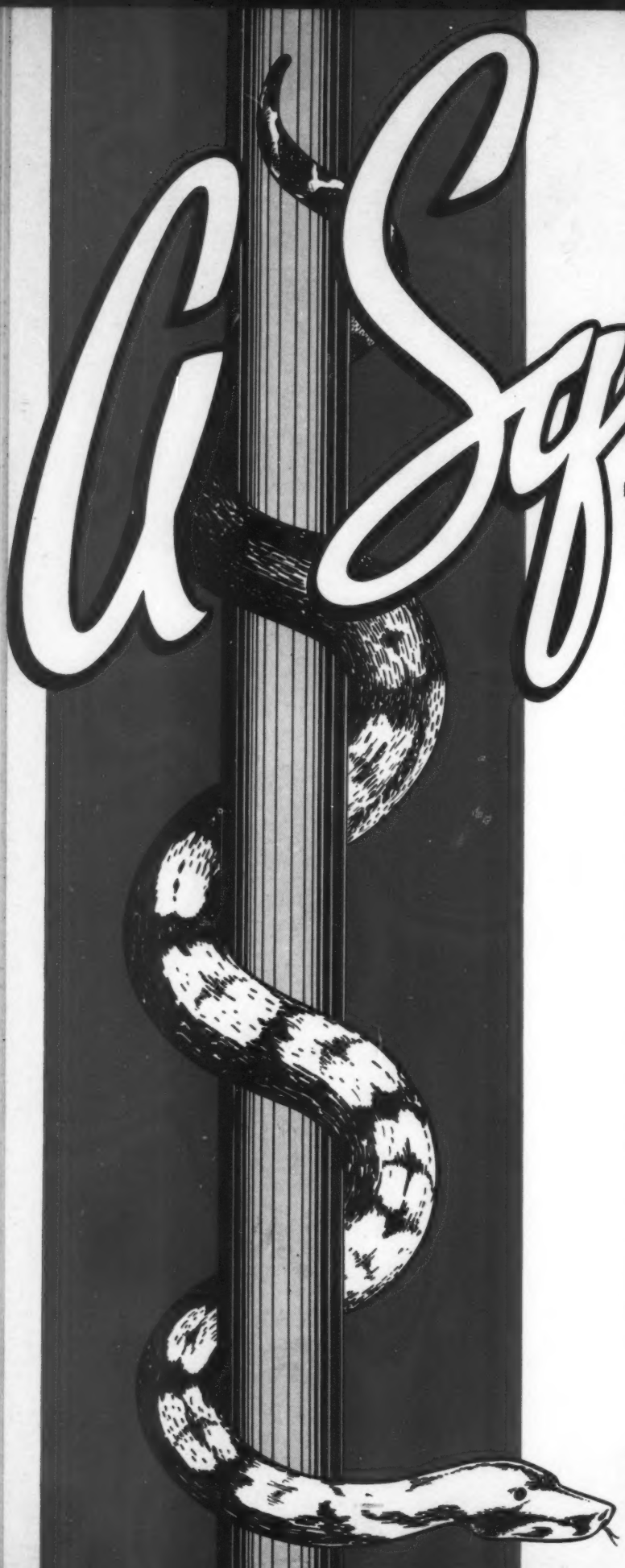

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BRANCH WAREHOUSES

Cement and Conditions Affecting Cement of Oil Well Casings and Liners

PART I

By
Wallace A. Sawdon
Petroleum Engineer, Los Angeles

The cement used in oil wells has become such an important factor in the efficient and economical operation of subsurface equipment that every effort is now usually made to make the cementing job completely successful and thus as nearly permanent as possible. There are two general classes of cement jobs: one is the cementing behind the pipe immediately after it is run to case or line the hole; the other is to repair the well in which production has been or is being adversely influenced by natural subsurface changes, deterioration or wear of subsurface equipment, or failure in original cementing jobs. Failures in original cementing jobs are probably caused in the majority of cases by channelling of the cement when it is being placed, by the casing being off-center or by the presence of mud cake between the cement and the formation with which the cement should form a bond. Other factors, however, frequently enter to influence the cementing job and it is the due consideration of all these factors that has made cementing practices in California as successful as they are.

The objects of cementing behind casing are to confine oil, gas and water to their respective formations or to prevent loss of production into lower pressure strata; to reinforce the pipe and thus reduce the hazard of collapse and protect the metal from deleterious action by fluids contacting the string; and to anchor the casing in the well. The use of cement for repair work is peculiar to individual wells but in general is

Bulk cement is being used to cement this well in Rio Bravo. The two hoppers shown hold 1000 sacks of cement each and the dry cement is metered as it flows out the bottom of the hopper, thus providing accurate measurement and facilitating control of slurry consistency.

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for protection of the well from water appearing from natural causes and for correcting any conditions which may result from ineffective subsurface equipment, conditions which may in themselves be caused by changing subsurface conditions. To achieve these objects, the proper cement should be selected, a good cementing point utilized, and the most effective equipment employed for placing the cement. Prior to the job the hole should, of course, be put in the best condition possible for providing a bond with the formation.

Oil Well Cements

Cements ranging in specifications from ordinary construction Portland cement to specially prepared oil well cement have been used successfully. There are cases, such as when cementing a shallow string under favorable down-hole conditions, where any kind of Portland cement will be satisfactory. Increased attention, however, is now being paid to the selection of cement for the conditions under which it is to be placed and there is evidence to show that an intelligent selection of the cement to be used for a particular job, combined with proper mixing to meet specific conditions, has aided materially in getting a successful job. Evenness in the slurry and speed of mixing are important factors, and fast mixing plus rapid displacement have been influential in making successful jobs. While no attempt can here be made to give a detailed discussion of cement specifications,[1] there are several important factors that should be mentioned.

The thickening rate of the cement is probably of first importance since the period of time during which the cement slurry remains pumpable has an influence on the success of the job, especially with deep wells where large quantities of cement must be pumped to great depths. It is in these wells that temperature is most influential and temperature increases the speed at which the cement sets. The high-temperature or slow-setting types of cement with thickening time of more than two hours and twenty

[1] In a paper on "Specifications for Oil Well Cement," presented at the A.P.I. meeting in Los Angeles, April 19, 1938, Eugene L. Davis of The Texas Co. brings out the desirability for greater standardization of cement specifications and presents some of the qualities of cement that should be considered by the operator.

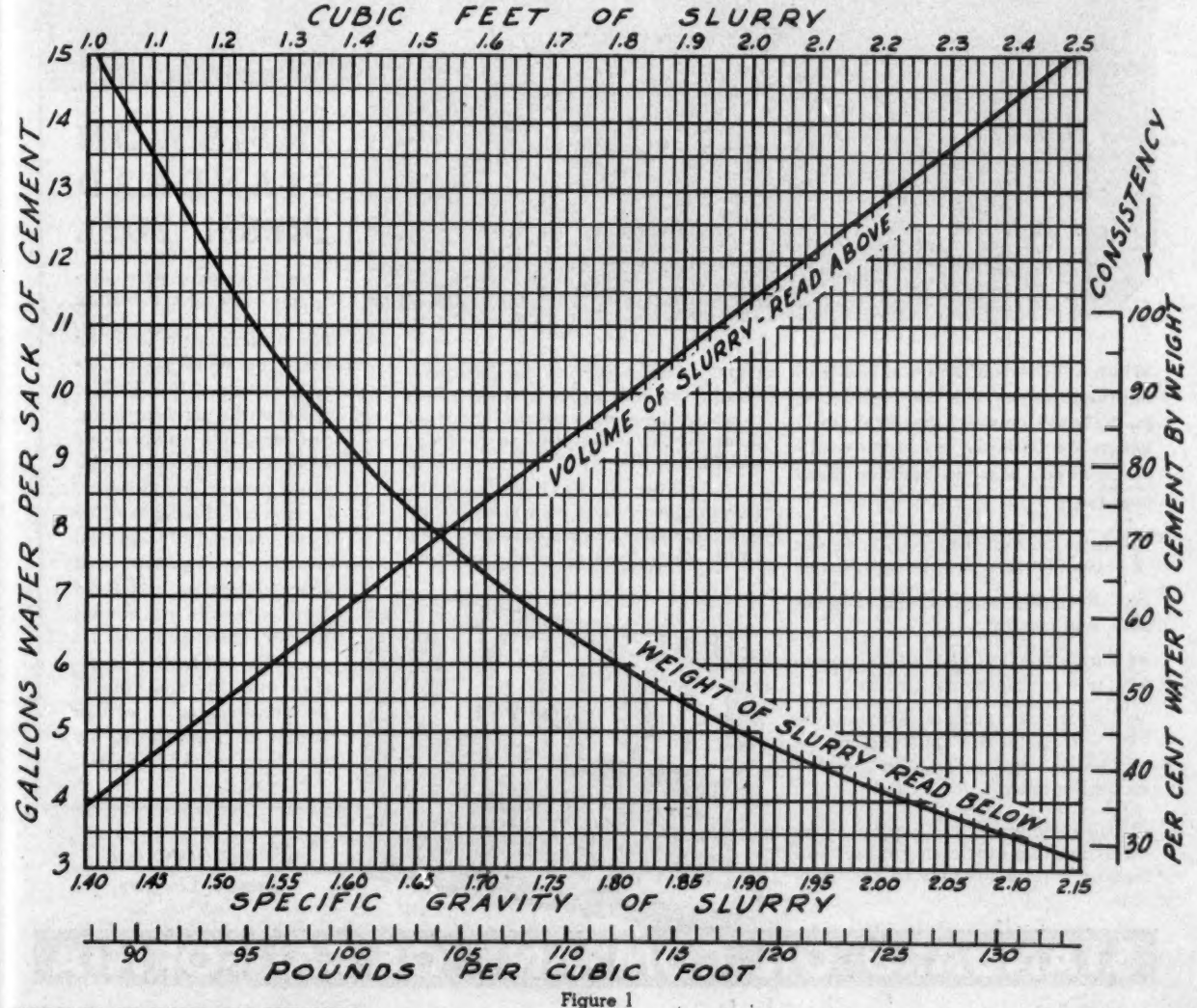
CUBIC FEET OF SLURRY
1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3 2.4 2.5
GALLONS WATER PER SACK OF CEMENT
15 14 13 12 11 10 9 8 7 6 5 4 3
VOLUME OF SLURRY - READ ABOVE
WEIGHT OF SLURRY - READ BELOW
CONSISTENCY
PER CENT WATER TO CEMENT BY WEIGHT
100 90 80 70 60 50 40 30
1.40 1.45 1.50 1.55 1.60 1.65 1.70 1.75 1.80 1.85 1.90 1.95 2.00 2.05 2.10 2.15
SPECIFIC GRAVITY OF SLURRY
90 95 100 105 110 115 120 125 130
POUNDS PER CUBIC FOOT

Figure 1

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Mixing the slurry is an important factor in cementing operations. Speed of mixing and uniformity of the mix aid in making the job success.

minutes are therefore frequently used for any job requiring a relatively long time for placement, particularly in those wells where the temperature at the cementing depth is very high. The possibility that the slurry will become unpumpable before it is in place must be considered not only because of the hazard to equipment in the well but also because agitation of the cement slurry after its fluidity has decreased will cause granulation of the cement when it has set. Cement thus granulated will have greater permeability and less strength and bond.

While cements designated as "slow" or "high-temperature" or by a stated setting time can be purchased, it is often advisable to make a thickening rate test to make sure that the slurry will remain pumpable until it is all in place. Thickening time testers now on the market have been found to give consistent results. Those based on the "ice cream freezer" method use slurries of the same initial fluidity, usually a 40 per cent water-cement ratio, and start the test at 80° F. After increasing the temperature at the rate of one degree per minute until 140° F. is reached, the temperature is maintained at that point. The adhesion of the thickening cement is measured in ounces of pull and when a pull of forty ounces is reached the point of initial set is considered to have been approximately reached. The thickening time is the elapsed time from the start of the test until the forty-ounce pull has been registered.

The thickening time can, of course, be lengthened by increasing the water-cement ratio with the addition of water. A higher water-cement ratio gives a greater volume of slurry but one of less weight, as shown in Fig. 1; and it must be remembered that high percentages of water will not give as strong a cement as a lower water-cement ratio mix. Many tests for compressive strength have been made with various makes of cement at different water-cement ratios. The probable average strength of 28-day cement made with a 40 per cent slurry (approximately 4.5 gallons of water per sack of cement) is a little over 7500 lb. p.s.i. and that made with 70 per cent slurry (approximately 8 gallons of water per sack of cement) somewhat over 3500 lbs. The difference is thus considerable.

While the average slurry used is probably around 50 per cent water-cement ratio by weight (5.6 gallons of water per sack of cement), there are cases where a higher percentage of water is expedient. It is sometimes possible to lengthen the thickening time a necessary amount by the addition of water without decreasing the ultimate strength of the cement to such an extent that good results cannot be secured. However, since the lowest water-cement ratio gives the densest cement, it is desirable to use the least amount of water the circumstances will warrant. The densest cement that is readily placeable gives the greatest assurance of success under normal conditions, other factors being equal; and the selection of the proper cement to provide a low water-cement ratio slurry that is pumpable throughout the required time is thus a factor in the success of the job. When a cement of characteristics better for a particular set of conditions is available there is no reason why some effort should not be made to obtain it. In computing the time necessary for complete placement of the cement due allowance must be made for contingencies. This time factor of safety is generally set at one hour but it may be more or considerably less when circumstances make it advisable.

While the bottom hole temperature must be taken into consideration in planning the job, the actual effect of this temperature will probably be somewhat vague. Deep wells with high bottom-hole temperatures are being cemented with no difficulty in California and the slow setting cements now available appear to be adequate for the job. The agitation of the cement while being pumped retards the setting and the speed at which the cement is discharged probably prevents a considerable amount of heat absorption at the bottom of the hole.

Agitation will retard the setting time but, as noted above, continued

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Pt. 2

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agitation will impair the strength of the cement; and too long a period of agitation may even prevent a permanent set. Since there is thus a definite limit to the time that may be consumed in pumping the cement to its position and since the minimum amount of agitation of the slurry is desirable after it has been thoroughly mixed, the sooner the cement reaches its place and all external influences removed the better the job will be. This merely emphasizes the necessity for preparation of the hole and planning of the job to eliminate any chance of a shut down or even a slight delay in the operation. The time factor of safety will usually take care of such emergencies but it is always better to have the cement in place before the extra time allowance has to be used.

The quick setting cements developed either by the grind or the use of reagents have definite advantages where the placement in a short elapsed time is assured. High early strength is desirable for all types of cement used for oil well cementing and is more important than a high ultimate strength which is generally unnecessary. Except in the case of most surface strings, the cement should be able to set in the presence of sulphate water and resist the action of such water.

Pressure appears to have little effect on the initial set of cement but it does have a favorable effect on both compressive and tensile strength. This is particularly true of cements made with relatively high water-cement ratios where the increase in strength due to pressure is greater than the increase with slurries made with less water. This does not mean that the strength of the higher water-cement ratio cement set under high pressure will equal the strength of a lower water-cement ratio cement set under atmospheric pressure unless the difference in the amount of water is very small; it is the increase in strength due to pressure that is greater. The high pressures force out more water, decrease the pore space and, by thus making a denser cement, cause a naturally expected greater strength and lower permeability. This is an important adjunct in squeeze cementing although probably not a vital factor.

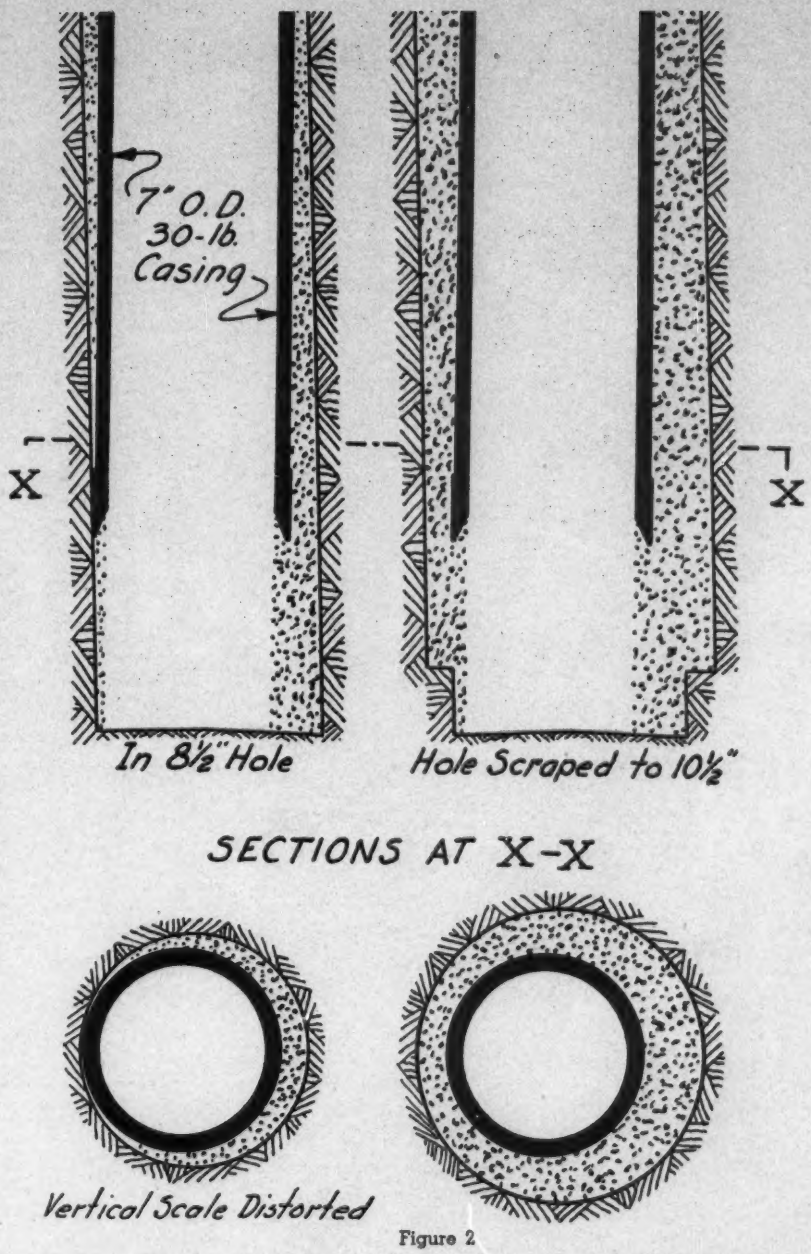

Figure 2

The actual weight of the slurry as related to the weight of the mud fluid in the hole does not require as much attention in California operations as it does in other areas where exceptionally heavy mud sometimes has to be used. Mud weights here seldom reach as high as 100 lbs. per cu. ft. and even a slurry made with 8 gallons of water per sack of cement will weigh approximately 103 lbs. per cu. ft. (See Fig. 1). A slurry made with not more than 5.5 gallons of water per sack of cement is probably as light a mix as would ordinarily be used and this slurry weighs 115 lbs. per cu. ft. Influence of the mud fluid other than that of weight must, however, be given consideration, especially the mud cake which has great effect on casing jobs as discussed later.

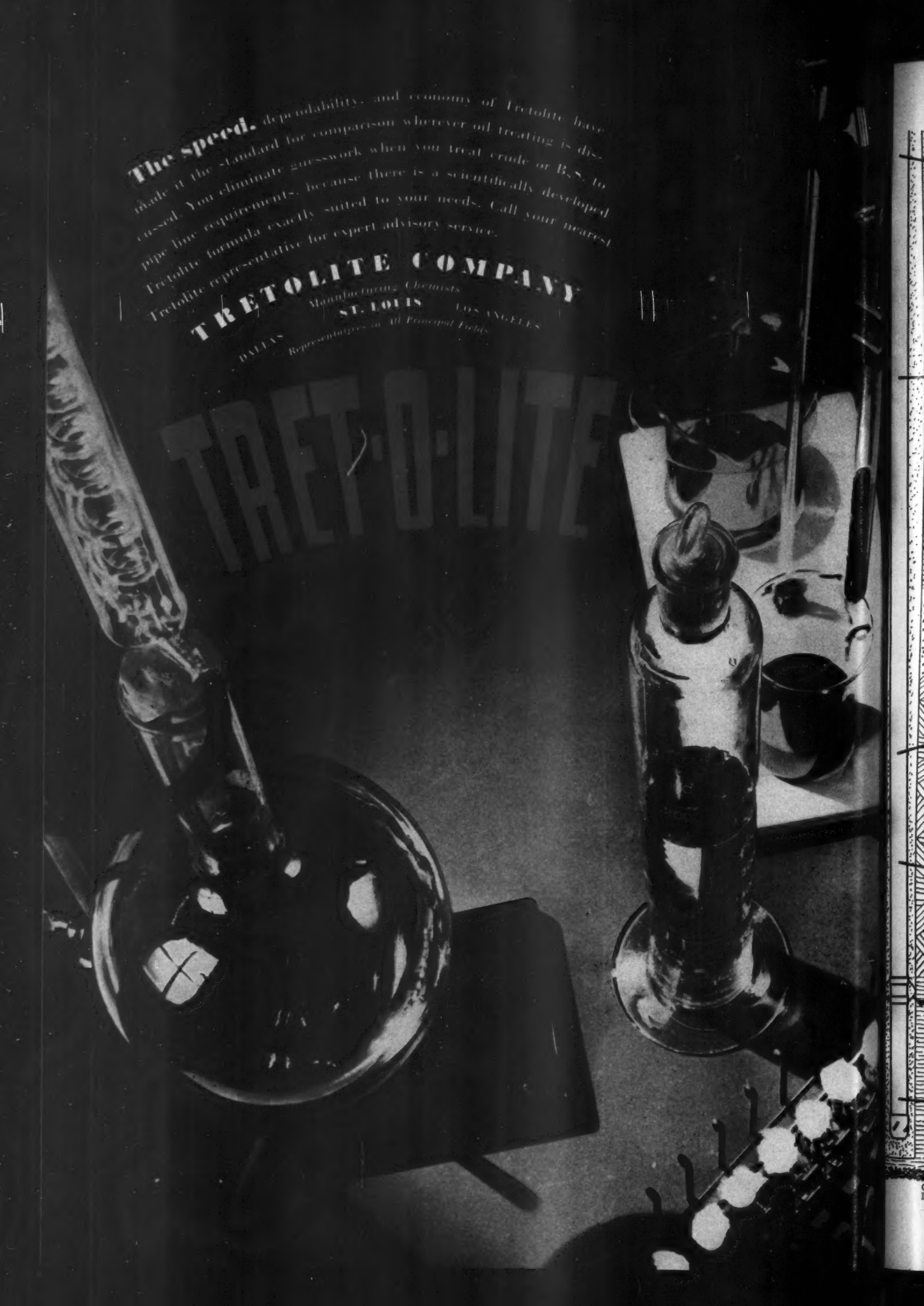
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Fig. 3

The possible results secured when cementing a string of casing are here indicated. At an above the shoe the cement will probably completely encase the pipe and form a good bond with the impervious formation which should have little or no mud cake, as shown at "A". Even in a formation which causes mud plastering the job at and just above the shoe would be approximately as here indicated. The casing is centered in the hole by the scratcher or scraper device.

Through the distance covered by the scratcher or scraper in its travel when the casing is raised and lowered, the mud cake formed on the porous formation is removed and gives a result approximately as shown in "B".

Above this point the mud cake on the porous formation is not removed and interfers with the bond as indicated by "C".

At "D" the casing touches the formation and a channel is started. The channel through which all the cement passes tends to decrease in area and even when an impervious formation is reached the cement may have no bond with the formation even if no cake is on the wall of the hole as shown in "E".

Admixtures With Cement

Certain properties deficient in a neat cement slurry are frequently acquired by the addition of other material. The most widely used is a prepared bentonite which is added to the cement to make what is known as gel-cement. While gel-cement has probably been applied to the greatest extent in recovering circulation during drilling, it offers some distinct advantages under certain conditions when cementing a string of pipe or repairing a well. The chief features are its high angle of repose that keeps the cement from dissipation into fissured or highly porous zones, its small amount of shrinkage and the increased set volume it gives to the cement.

There is more than a possibility that gel-cement has not been properly mixed at many of its applications and that full advantage of the bentonite has not been obtained. One error has been in introducing the gel material to a mix without increasing the amount of water. Somewhat more water must be added to make a gel-cement slurry than when using cement alone since the bentonite requires additional water for its hydration. The amount of bentonite added will naturally determine the volume of water and while specific jobs will require that different quantities of gel be added, the usual mix is from 4 to 5 pounds per sack of cement with a 75 per cent water-cement ratio, or approximately 8.5 gallons of water per sack of cement. This gel-cement slurry is here compared to a 50 per cent neat water-cement ratio of 5.5 gallons of water per sack of cement which is the usual neat cement mix.

Although more water is used with a 75 per cent water-cement ratio gel-cement containing 5 pounds of prepared bentonite per sack of cement, the water loss is considerably less than that with a 50 per cent neat cement. This affects directly the shrinkage on setting and the volume of the set cement. From tests made on a number of samples using different brands of Portland cement, an average shrinkage of 7.8 per cent was found for the 50 per cent neat cement and 0.86 per cent for the 75 per cent gel-cement. In tests made with these same water-cement ratios the volume of slurry in cubic feet occupied by 100 sacks of cement was found to be 122.1 for the neat cement and 165.8 for the gel-cement. The decrease in volume when the cement had set was to 112.5 for the neat cement and 164.4 for the gel-cement. That is, the decrease in volume of the neat cement was 7.8 per cent and that of the gel-cement was 0.7 per cent.

Although a high ultimate strength is not usually necessary in a cement used in oil wells, an assurance of strength sufficient to prevent movement of the pipe is necessary. Tests made with gel-cement have indicated this shear strength to be available with even short cementing distances above the shoe; and with the quantities of cement generally used when cementing a string of casing there seems to be little question about the strength being adequate for the purpose. The set gel-cement appears to be less permeable than neat cement and this is frequently an advantage. Investigations on tensile strength of gel-cement have shown that with high water-cement ratios the gel-cement will frequently be stronger than

neat cement made with the same amount of water although a gel-cement made with a higher water-cement ratio will naturally not be as strong as a neat cement made with less water.

The quantity of prepared bentonite used in making the cement should be definitely determined by the conditions and the water-cement ratio selected to meet the requirements of the gel material. Gel-cement has a higher viscosity than neat cement slurry but it is as readily pumpable. It tends to resist contamination by mud or oil by shoving the contaminating matter ahead of it. Since the gel-cement has this property and also requires a less amount of cement to fill a given space behind the casing it is favored by some operators for casing jobs.

The use of fibrous material with cement is practiced in California to some extent but mainly for recovering lost circulation. Fiber cement is employed more in drilling operations but has been applied at times to repair work where loose formations of various kinds have been taking fluid out of a well.

The necessity for an exceptionally heavy slurry has not arisen in California but there are areas where mud of great weight is used; and such mud requires the use of a heavier slurry when cementing. Some research work is being done to develop admixtures capable of giving the necessary weight to cement without robbing it of its other qualities. One such admixture has been used for comparatively shallow wells but with the object of obtaining the small shrinkage qualities which this admixture imparts to the cement. The material is a specially prepared metallic substance developed to eliminate oxidation and the weight which it gives to the slurry is naturally greatest with the lowest water-cement ratio. It therefore has to impart mobility to the mix.

The use of sand with cement has been tried in a number of wells, mainly in plugging and sidetracking operations, and has given successful results. There are felt to be possible advantages in the use of such a mortar, not the least of which, in cementing a casing string, would be the probable abrasive action on the mud cake on the wall of the hole. Perhaps sand in a mortar would do much to remove this cake and secure a better bond for the cement.

Cementing Casing and Liner

With the extensive use of electrical logging and coring there seems to be little excuse for selection of a poor cementing point for casing as long as a good formation is available within the depth limits imposed by other factors that sometimes make the running and cementing of a string of casing obligatory. Such conditions may be caused by the penetration of a troublesome water or gas stratum but in such a contingency and when the water string is set on top of the sand, the subsurface information will at least designate the best possible cementing point within the depth limits.

It is possible that insufficient attention is sometimes given to the cementing point of the surface string

Consolidated on one truck is the equipment for a two truck job, a recent development of Halliburton. Four pump units are carried.

although it is to this string that control heads and the next string of casing are connected and full reliance against blow-outs placed until the next string is cemented. Blowouts have occurred because access has been given by the formation in which the shoe is cemented to the passage of gas or high pressure water which then forces its way up outside the cement to cause cratering at the surface. In some cases the cement does not fill up on the outside of the pipe.

It is the practice to cement the surface string from the shoe to the surface and, where the cement cannot readily be placed for the entire distance from around the shoe, to cement the upper portion by pumping the slurry in from the top. Some companies perform from one to eight outside jobs on the surface string by running joints of 1½-in. line pipe between the casing and the hole. Circulation behind this string is not always as free as might be desired; yet, except in an isolated case or two, no use has been made of special cementing shoes which provide for the application of pressure to the cement through tubing or drill pipe in order to make sure that the cement is placed behind the pipe for its entire length. Float shoes are not universally used on surface strings although some operators insist on a float shoe for every string of casing except large diameter conductor pipe.

Practically all casing landed below the surface string is equipped with a float shoe or a float shoe and float collar. Some of the long strings in the deep fields are made up with a float shoe and two float collars. In addition to providing extra floating facilities, the float collar acts as a stop for the cementing plug and keeps the cement tailings within the casing, thus assuring that all cement passing the shoe is strong and uncontaminated. The collar is generally placed at the top of the first standard length joint above the shoe but some operators put it higher or lower in accordance with their desires as to the amount of cement to be left in the casing.

The down-whirler type of float shoe has come into extensive use during the past year or two. When using this shoe a portion of the cement is discharged through side ports and given a downward jetting action in a circumferential direction.

Speed is evident in this view showing a cementing job being done with one truck.

All types of float shoes and collars have back-pressure valves which prevent the return of cement back into the casing after it has passed through the valve.

Even with the straight holes now being consistently drilled, every small deviation from the vertical will cause the pipe to contact the side of the hole. Without any deviation, however, it is probable that there will be points where the casing will touch the wall. Such places will tend to cause channelling or at least prevent complete encasement of the pipe with cement at those points even if they do not start channels. A very small deviation at the bottom of the hole will cause the shoe to touch one side of the bore and, as indicated by Fig. 2, this point of contact will be at a place where it is most vital to the cement job.

Off-centering of casing is probably a frequent cause of cement failure. Several types of centering devices, some equipped with scraping elements, are often used to keep the casing in the center of the hole and thus insure passage of the cement completely around the pipe at and near the points where they are placed. Another method that may be followed is to wall-scrape the hole to an appreciably larger diameter at and above the shoe location before the casing is run and by this means not only make sure that cement will completely surround the pipe but also secure a thicker anchor where it is most important (see Fig. 2). The deleterious mud cake is also removed by this method and when it is possible to lighten the mud, the scraping can be done with a mud fluid that will plaster the wall either not at all or to a much less extent than before the hole was scraped.

In cementing combination strings the hole may also be enlarged at the cementing point for the same purpose of making sure that the pipe is completely encased with cement and of getting a thicker anchor or plug at that point which is an important water shut-off. In the Wilmington field when cementing sections of blank pipe between two oil zones the hole is frequently scraped at the places where the blank pipe will be located.

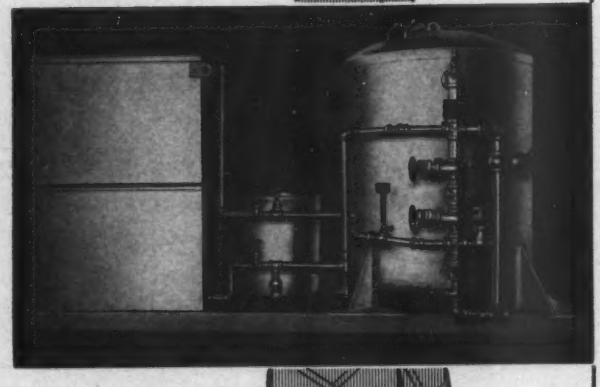
Effect of Mud on Cement Jobs

A good thixotropic mud with proper wall-building qualities will deposit a thin mud cake on the walls of the hole where there is passage of water from the bore into the formations. Such mud is a necessity for efficient drilling operations.[3] The mud cake, so desirable in drilling, is a detriment to cementing. When actually cementing, it is difficult to remove this cake which, in addition to preventing a good bond between the cement and the formation, may

[3] This was fully discussed in an article on "Mud Conditioning Is An Important Factor In California Drilling," California Oil World, Second Issue of June 1940.

HOW TAFT TAMED A TARTAR!

★



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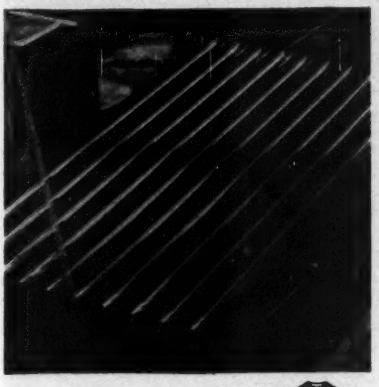

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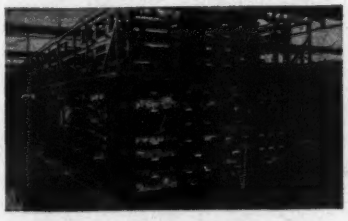

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contaminate the slurry itself if sloughed from the wall during the cementing operation. The contamination will not be serious with large quantities of slurry but may be harmful when only a small amount of cement is to be placed behind the pipe.

It must be remembered that a true mud cake forms on the wall of the hole only when the formation will take water from the mud fluid and that on a completely impervious formation no mud cake will form. This was confirmed by some of the tests made by Union Oil Co. in a recent investigation[a] on the influence of mud on cementing jobs. Many shales are very impervious and it may be that the influence of the mud cake on the cement when cementing in such shales may be considerably less than anticipated. Some form of cake may form on relatively impervious formations and even if no actual cake is deposited there is probability of a gel coating forming on the wall under some conditions when a highly thixotropic mud is used. This, however, is quite different from a cake plastered on the wall and from which the water has been expressed.

The investigation recently conducted[a] to determine factors which influence the bond of cement behind pipe dealt with the study of channelling, the effects of mud cake and the relative values of various mechanical and chemical means for removal of mud cake. The results were summarized as follows:

"Channelling and chimney formation of cement in the annulus is unlikely in the immediate region of the shoe, but may occur near the top of the cement column.

"Wherever cement slurry is applied opposite formations having appreciable permeability, a residual mud cake will remain between the set cement and the formation unless specific means are employed to effect its removal. The presence of collars, movement of the casing, or

[a] "Oil Well Cementing Factors Influencing Bond Between Cement and Formation," by P. H. Jones and Denis Berdine—A.P.I. meeting in Los Angeles, March 19, 1940.

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That's the number of times a ball rises in the cage of a deep well plunger pump and comes down *smack* on the valve seat. The seal must be perfect at every stroke for silently and unseen your pump lifts oil according to the quality of its valve seats and balls. Axelson's precision manufacture together with high quality materials accounts for the non-slip seal that gives long productive life and low-cost lifting.

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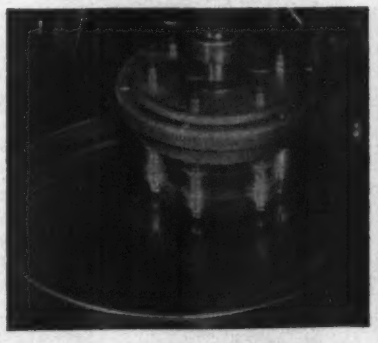

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circulation of water may reduce the thickness of the mud cake slightly, but will not remove it completely.

"Where the casing rests against the walls of the hole, residual cakes will be thicker than normal. There is a tendency for the cement slurry to be excluded from such regions of proximity, thus leaving longitudinal stringers of mud cake with no cement between the casing and the formation.

"Three methods were found to be effective in removing mud cakes:

"1. Hydraulic action by direct impingement of fluid jets (such as that induced by down-whirler shoes) against the walls of the hole.

"2. Mechanical scraping by using suitable mechanical devices on the casing, and alternately raising and lowering the casing. This is effective only over areas where scrapers or scratchers make a bearing on the wall of the hole.

"3. Acid treatment gave best results under atmospheric pressure conditions. Laboratory tests at high pressure indicate but do not prove that effective mud cake removal under these conditions may be obtained."

There is a growing trend in the practice of moving the casing during cementing operations even with the deep wells that require long strings. This is probably influenced by confidence in the newer pipe and joint construction now available since movement of the casing while the cementing job is being performed has always been felt advantageous. There is a great variety in the methods employed in this movement, however, since some operators raise and lower the string rapidly over distances as much as thirty feet while others move the pipe slowly over much less distances and decrease the movement as the job nears completion.

The use of mechanical scrapers or scratchers naturally necessitates movement of the pipe and since the effectiveness of such devices appears to be mainly confined to the distance covered by the movement, the greater distance over which the casing is raised and lowered would seem to have an advantage.

Velocity of slurry flow up behind the casing is felt to have a definite influence on the success of the job; and while the annular space between the pipe and the hole must be great enough to insure the best chance of complete encasement by the cement it is recommended by some engineers that the velocity of the cement after passing around the shoe should be greater than that down the inside of the casing. That would make it necessary for the internal area of the casing never to be greater than the area of the annulus. This requirement has been overcome, however, by the fast cementing jobs that are now the vogue as exemplified in the Rio Bravo field by the displacement of as much as 2500 sacks of cement behind 11,000-ft. string in as little as 14 minutes.

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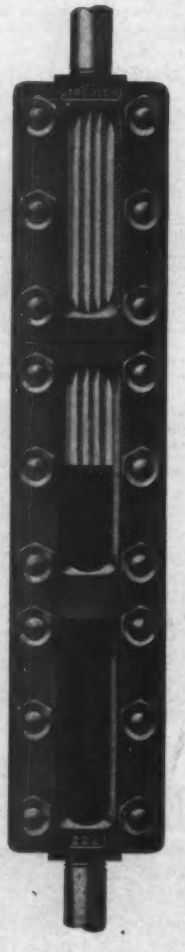

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The float shoes and float collars that have beeen used with such jobs have openings fully adequate for high-speed displacement and it is of interest to note that on these jobs the long strings of casing are frequently moved rapidly over distances as great as 30 feet. The fast displacement at depths where temperatures are naturally relatively high has, of course, other advantages as brought out above.

Tests on Cement Jobs

Because one function of the casing cementing job is to reinforce the pipe, it is important to find out how far the cement has extended up behind the string. Temperature surveys to determine the top of the cement are now being made to a great extent. This point is detected by means of an instrument run into the well as soon as possible after the cement is in place and is located by the heat given off by the setting cement. The highest point showing heat generation is naturally the top of the cement. With a knowledge of the amount of cement left in the casing, the volume of the open hole below the shoe and the quantity of cement theoretically necessary to fill the space behind the pipe, the approximate distance to which the cement should rise is computed.

By checking the estimated distance with the one shown by the temperature survey, considerable information is often disclosed regarding the cement job. Hole irregularities must be taken into consideration but where the formation has been good, the mud maintained in proper condition and the hole kept out to gauge, a close estimate can be made as to how high the cement should extend. Excessive channelling and other conditions will often be disclosed when the actual height is correlated with other information previously known or disclosed during the drilling and cementing operations.

The formation tester is universally used for making water shut-off tests in California. This method, as authorized by the State Mining Bureau, eliminates danger from casing collapse and gives a more conclusive test of the job. The cement is first drilled out to a minimum of five feet below the shoe. With the hole full of fluid the equipment is run in on the empty drill pipe and the packer usually set in the bottom joint of casing above the shoe. A bottom hole pressure recorder is attached to the anchor which extends below the packer. This pressure recorder operates as an individual unit since it is separated from the unit above by a blank disc and thus discloses the actual pressure of any fluid entering the hole below the packer.

When the tester is pulled the fluid rise is checked with the pressure record in order to make sure that nothing has happened to give an erroneous interpretation from the height of fluid. When any fluid is brought up in the tester a salinity test is also made since water not from behind the casing frequently is

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present from leaky drill or other causes; and by coordination of identification of this fluid with the fluid rise and the pressure record, a more accurate determination of the success of the shut-off is obtained.

Testing for water shut-off when the cement job is at some distance above the shoe (as in the case of combination strings or where blank pipe is cemented between perforated sections) is also done with the formation tester. After drilling out, the casing is gun-perforated at approximately the point where the cement has been discharged through ports in the cementing collar or through perforations provided for the passage of cement. This is necessary because the cement will have plugged up the holes through which it passed and access for fluid into the casing around the cement must be provided in case the job is a failure and such fluid is present.

In all cases of unsatisfactory shut-off tests, either around the shoe or up the casing, a recement job will have to be performed. This is usually a squeeze job requiring the use of other cementing equipment which will be discussed in a subsequent article.

Part II will discuss the Methods and Equipment Used for Multiple Zone Shut-Offs, for Unusual Cement Jobs and for Placement of Cement in Well Repair Work.

Basin Refiners Installing Polys

Pathfinder Petroleum Company of Los Angeles has signed a license agreement with Universal Oil Products Company and will immediately install a U.O.P. catalytic polymerization unit to produce polymer gasoline from the cracked gases produced in its refinery at Los Alamitos.

The poly unit will have a rated capacity of 345,000 cubic feet of gas per day.

H. A. Meek is president of Pathfinder. Bert Devere is vice-president and general manager.

Socal Oil & Refining Company of Los Angeles will at once revamp the cracking unit in its refinery at Huntington Beach to operate the Dubbs process in order to increase the yield and improve the octane rating of its gasoline.

This action follows the signing of a license agreement with the Universal Oil Products Company of Chicago.

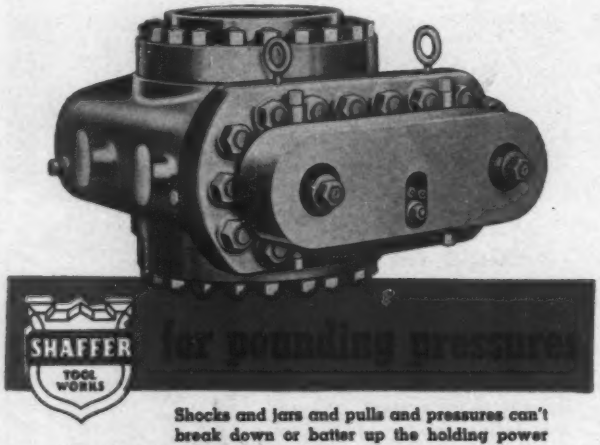
At present the Socal refinery is running about 3000 barrels a day of Huntington Beach crude.

When revamped the plant will be a 2-coil selective cracking unit with a capacity of 1150 barrels per day of 16.6° A.P.I. gravity Huntington Beach topped crude.

C. A. Johnson is president and general manager of Socal, and J. H. Grimes is vice-president and refinery superintendent.

Compromise Settles Harbor Title Suit

The suit in which the City of Long Beach attacked titles to several large tracts of land in the richest portion of the harbor oil field was ended by Judge Ralph E. Jenny's decision confirming present ownerships. The municipality, however, receives $100,000.00 in cash, a much needed highway right-of-way and additional drill sites for developing harbor channel production.



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LAUGH THIS OFF

By a strange coincidence we have an uncle in Dubuque who has served two terms—only one of them, however, in public office.

Aunt Emmy never would tell us why they took him away, but it was common gossip in the neighborhood that he had swiped a bottle of perfume at the drug-store, and had been found guilty of fragrancy.

We think he became embittered after being fined six cents for keeping a library book three days overdue.

However, this is no place to air the family wash, so let's get to election news: **Hal Halvorsen** first describes a politician as a man who can climb a fence, at the same time keeping a watchful eye on the whole situation, and one ear to the ground.

Whatever happened in Chicago, we hope the democrats were a little more considerate of the candidates than the republicans were. The latter kept Wendell Willkie up all night, making it necessary for **Charley Chandler** to revamp the old nursery rhyme as follows:

Wee Wendell Willkie
Ran around the town
Upstairs and downstairs
In his night gown
Peeped in every window
Cried through every lock
"Why don't they nominate me?
It's almost two o'clock".

By the way, Charley points out the peculiar fact that every president of the United States up to the present time has been a cabinet maker.

You know, of course, that an instructed delegate is merely a lad whose wife has told him how to vote.

Whereupon **Bill Beck** points out this oddity: The candidate for vice-president either gets the job and has nothing to do, or doesn't get it and has to go to work.

Bill, incidentally, is studying the origin of the two great political parties, but so far is not in a position to say whether a democrat becomes a republican when he gets rich or a republican becomes a democrat when he gets poor.

In any case, both parties seem to be agreed that it is not so important to keep a working majority as it is to keep a majority working.

And whether you are a democrat or a republican, now is the time for all good aid to come to the men of the party.

Also, as **Rene Reinhardt** always said, "It's a good job the United States did unite. Imagine how silly you would feel, singing, 'My Country T'was of Those'".

Saying which we switch with reckless abandon to other things. **Walt Perris** declares that in any industry the size of the oil business, change is absolutely essential to progress, so if you want to progress my laddies hang on to your change.

That's not so easy as it sounds. Money may be called "dough", but it certainly doesn't stick to the fingers like it.

And says **Harry Coe**, "I see the Defunct Oil Company has brought in a gusher". "Gosh!", yells **Bert Clearwater**, "That reminds me I left the water running in the bathtub".

Which recalls the awkward predicament of an erstwhile oil man that was once related by **Dave High**. The aforesaid oil man had no sooner opened the front door at 1 a.m. than the little lady barked from the front room, "And where have you been all evening I would like to know?" "At the office, dear", was the ingenious reply. "Well", she continued grimly, "You must have been wearing an asbestos suit. Your office was burned down five hours ago".

Then there was the pumper who asked the night man, "How's your better half these days?", and received the significant injunction, "Be a little more careful with your fractions old top".

So saying we must bid you au revoir. Remember, actually capital is the money you lend, and labor is what you have to do to get it back again.

And when a promoter comes to you with a capital idea, better let him use his own capital.

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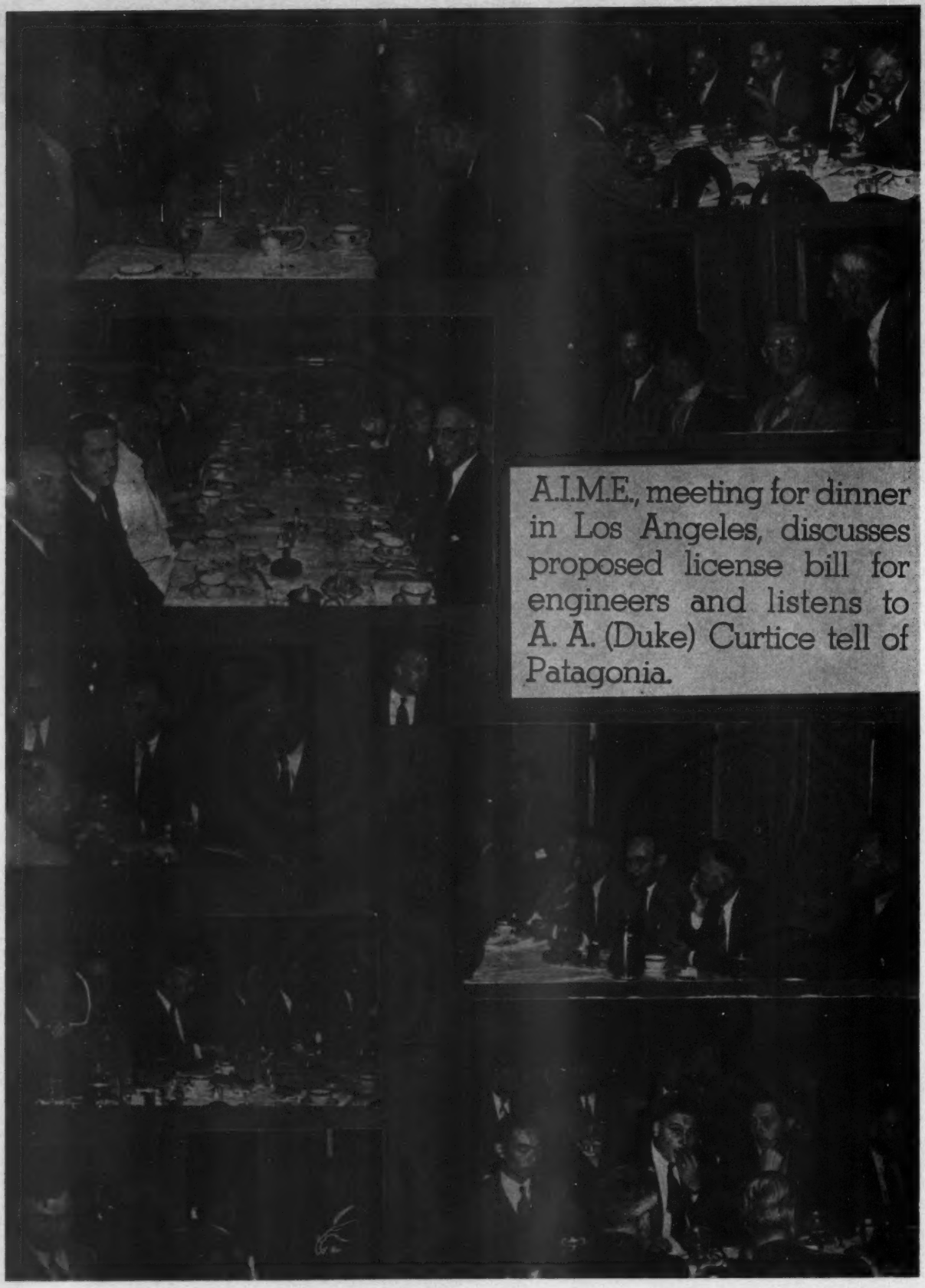
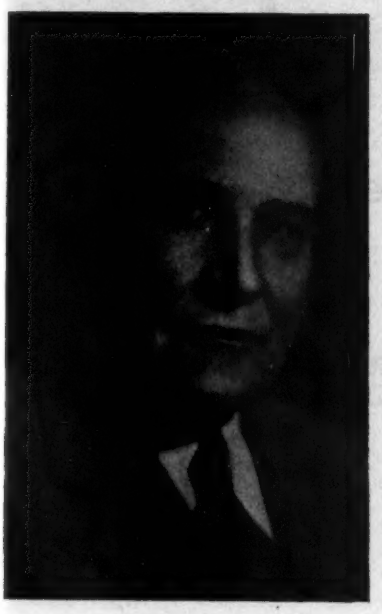


A.I.M.E., meeting for dinner in Los Angeles, discusses proposed license bill for engineers and listens to A. A. (Duke) Curtice tell of Patagonia.

St. Clair Heads Conservation Group

L. P. St. Clair, president of the Independent Oil Producers Agency, was unanimously elected Administrator for the Conservation Committee of California Oil Producers at its meeting July 16.



L. P. St. Clair

"Conservation Committee" is the name adopted by the former Central Committee of California Oil Producers, which, in addition to ratifying the choice of the Selection Committee appointed at the June meeting to recommend a successor to Lawrence Vander Leck as Oil Umpire, also adopted a new policy with respect to the office; as Administrator, Mr. St. Clair's first responsibility will be to secure compliance with the production allotments assigned by the Conservation Committee, but of equal importance, he will devote much of his time to securing markets for California crude, in an effort to insure a fair outlet for all producers.

The new Administrator was the unanimous first choice of the selection committee, but agreed to serve only after considerable persuasion. He has been in retirement for approximately a year, following his resignation as Chairman of the Board of the Union Oil Co., and was reluctant to come out of retirement and assume the responsibilities of a job which admittedly is no sinecure. When he finally accepted, according to members of the selection committee, it was on condition that he serve without salary, his attitude being that he was willing to assist in industry problems where it was felt that he could, but that such assistance must be voluntary.

Mr. St. Clair first attained prominence in the oil industry some thirty years ago, when as one of the organizers of the Independent Oil Producers Agency he was instrumental in securing a market for oil produced by independent operators in the San Joaquin Valley. He has consistently advocated the policy that each producer is entitled to his fair share of the available market.

A. H. Bell

The present voluntary curtailment program will continue to be under the direct control of the Conservation Committee, which is composed of the chairmen of 29 elected field committees and their alternates, and five members at large. The comittee lays down the rules under which production is alloted to the individual wells of the state, the sum of all the individual allotments being the total state allotment.

W. R. Wardner, Jr.

In addition to electing Mr. St. Clair the Committee also elected a new chairman, A. H. Bell of the Continental Oil Co., who will preside at committee meetings. Lloyd Williamson was elected to the Allocation Committee replacing Mr. Bell.

A. H. Bell is one of the State's outstanding field men. As general superintendent for Continental he supervised some time ago the drilling of the world's deepest oil well at Wasco, a project which bottomed at 15,004 ft. He has at various times been employed by Union Oil, Associated Oil, Empire Gas & Fuel Co., Pierce Oil Corp., Marland Oil Co. of California and Continental Oil Co.

W. R. Wardner, Jr., formerly Assistant Umpire, continues under the new title of Assistant Administrator for the Conservation Committee of California Oil Producers. Mr. Wardner became associated with the office in November 1929, only a few weeks after its inception, and since 1936 has served in the capacity of Assistant Oil Umpire.

Lawrence Vander Leck, who was both Oil Umpire and Chairman of the Committee until his resignation last month, will continue to represent District No. 17, composed of the producing areas around the city of Fullerton.

Field Development

San Joaquin Valley

Richfield Drills 15 Cole's Levee Wells

Largest operator in any single field in California is the distinction attained by Richfield Oil Corp. through its operation of 15 strings of tools at Cole's Levee. Locations are made ready and derricks built in advance of completions so very little time is lost in moving drilling equipment from one well to another.

The majority of Richfield's wells are drilled by contractors who have set enviable records for efficiency and economy.

Standard Oil Co. and Ohio Oil Co. are, at present, the only other companies active; the former running one string and the latter two.

Accentuating the break between the Richfield-Western area and Cole's Levee proper, Richfield's KCL-A 18-33, located in the southwest corner of sec. 33,30-25, noted the "N" marker quite low and cored only stringers of poor oil sand in the Stevens zone at 9230 ft. It is now standing suspended.

Standard Finishes 3060-Bbl. Greeley Well

Latest completion of Standard Oil Co. in the Vedder sand at Greeley was KCL No. 11-22 in sec. 18,29-26 which came in at the rate of 3060 bbls. a day. Accompanying the flow of 35 gravity clean oil was 2,800,000 cu. ft. of gas. The well employs 120 ft. of zone which is open to bottom at 11,510 ft.

Consoco Drills Midway Project

Consoco, Inc. has taken a contract to drill No. 46-33D in the Midway field for Standard Oil Co. The company will employ the new A. O. Smith-Sharpenburg Turbo-Drill which rotates the bit by a turbine operated by the circulating fluid on the bottom of the drill pipe. Other tests of this equipment indicate that the drill pipe, relieved of the wear and tear of rotating, can be expected to last indefinitely.

In sec. 35,32-23, Signal Oil Co. has been bothered by a cable tool fish falling back in the hole and plugged the once 2315 ft. hole to 2200 ft. from which point sidetracking is progressing nicely.

Petrolia Corp., in sec. 22,31-22, is drilling in oil sand at 1050 ft. after setting casing at 800 ft.

Crooked hole trouble delayed Mascot Oil Co.'s No. 56 in sec. 26,32-23, but with new hole being made at 2300 ft., the situation seems well in hand.

In the Lakeview area, Union Oil Co. is deepening Lakeview No. 9 which was first drilled nearly 30 years ago. Last reported depth was 2847 ft.

Amerada Quits Outpost Test

After carrying S.P.L. Corehole No. 38-9 to 8758 ft. in the southwest quarter of sec.9,19-16, Amerada Petroleum Corp. has put the exploratory hole on the hook. Located a mile and a quarter northeast of producing horizons in the Coalinga Northeast field, the well was proved to be 1550 ft. lower than the company's nearest producer, No. 3-17.

Continuing development of the Coal-

SAN JOAQUIN VALLEY WILDCATS

Fresno County

Area	Well	No.	Section	Depth	Status
Cantua Creek	Logan, J. E., Jr., Yearout	44	26, 16-14	8929	Drilling
Coalinga	Lewis, C. H.	1	18, 21-15	2298	Idle
	Section 30 Oil Co.	8	30, 19-15	830	Drilling
	Tide Water Assoc. Oil Co., Guardian	23	2, 20-15		Rig
Jacalitos Hills	Continental Oil Co., Kreyenhagen	1	4, 22-16	6691	Drilling
Kingsburg	Erickson & Swanson	2	22, 16-22	1500	Idle
Mendota	Jergins Oil Co., Cheney Ranch	1	29, 14-13	9345	Testing
	Kern County				
Belridge—South	Delanty & Sutton, Burneol	1	28, 28-22	540	Drilling
	Santa Mora Oil Co.	1	10, 28-20		Material
	Seaboard Oil Co., Beer	66	17, 26-19	2351	Drilling
Devil's Den	Emigrant Hill Oil Co.	1	24, 25-18	4271	Cleaning out
	Trigg, H. C.	1	11, 25-18	693	Testing
Edison	Goodrum & Vincent, Inc., S.P.	5	31, 29-30	533	Idle
Grapevine	Kern Line Oil Co.	1	19, 11-19	Partly	Rigged up
	Richfield Oil Corp., Tejon Ranch	1	2, 10-19	6688	Sidetracking
Greeley—South	Superior Oil Co., Brandt	1	28, 29-26	11750	Drilling
McKittrick	Freda Q. Oil Corp., Laymance	4	20, 30-22	1377	Swabbing
	Hoyt, Otis, Union	1	6, 30-22	2526	Producing
San Emigdio	Chapman, A. E. T.	1	14, 10-23	2011	Drilling
Semitropic	North Kern Oil Co., Sawyer	1	16, 25-22	6620	Idle
Shale Hills	Gen. Pet. Corp., Twisselman	1	31, 27-19	2463	Abandoned
	Scotia Exploration Co., Abbott	1	7, 27-19	2047	Idle
	The Texas Co., McD-Theta	1	12, 28-19	5059	Drilling
Wheeler Ridge	Richfield Oil Corp. KCL	2	28, 11-20	4922	Drilling
	Tulare County				
Trico	Tide Water Assoc. Oil, Daniels	35	22, 24-23	10780	Drilling

inga Northeast field which it discovered and in which it has 7 producers, Amerada is completing Ewing No. 3-20B in sec. 20,19-16, and has started the drill on S.P.L. No. 1-17B near the northwest corner of sec.17,19-16.

Also active in the main portion of the area, is Standard Oil Co. with two wells finishing and work started on seven more projects. Union Oil Co. is locating water in Cook No. 55-18B and has foundation in for No. 66-18B.

Jergens Well Lacks Fluid

Operating in the Mendota area of Fresno county under a mantle of secrecy, Jergins Oil Co. redrilled its Cheney Ranch No. 1 to 7200 ft. A perforated liner was run, the mud fluid replaced with 450 bbls. of oil, and the well was thoroughly swabbed. The injected oil was recovered in intermittent flows over a two-day period. The try seems capable of making a moderate amount of formation gas and at times has blown small amounts of condensate.

Shut in to build up pressures, and then cracked open, the well blows dry in a matter of a couple of hours. The formation at present open is Eocene in age and is similar to many sands tested elsewhere in the Valley which have proved too tightly packed and impermeable to afford a reservoir for commercial production. It is possible that if the sands can be found elsewhere on the structure which prove to be looser in character, substantial production may result.

Coalinga Northeast South Edge Active

Following the recent 1000 bbl. completions in sec. 30,19-16, at the south edge of the Coalinga Northeast field, activity increased rapidly. Wilshire Annex Oil Co. is preparing to complete No. 62-30B while Pacific Western Oil Corp. and Geo. F. Getty, Inc. are drilling East Coalinga Comm. No. 1 and have made location for a second project.

Pure Oil Co., recent finisher of a well in the section, has erected rig for East Coalinga Subdivision No. 1 and The Petrol Corp. is rigging up No. 43-30B.

Columbia to Drill At Mountain View

Proposing to drill in the southwest corner of sec. 19,30-29, Columbia Oil Co. has built rig for Crawford No. 1, according to Walter M. Crawford, president of the concern. Otis Hoyt has been engaged to do the drilling on a contract basis.

Tide Water Plans Vedder Zone Well

KCL No. E-27-7, Tide Water Associated Oil Co.'s latest effort in the Strand field, will drill to the Vedder zone. At present rigging up in the southwest quarter of sec. 7,30-26, the well will be the first to drill below the Stevens zone in the group of fields embracing Ten Section, Canal, Cole's Levee and Strand. The field is at present producing from the Stevens zone, some 3500 ft. shallower than the objective sand.

A short distance northeast of this field, the Standard Oil Co.'s Greeley field produced from the shallow level and was subsequently found to be productive in the Vedder zone as well.

Buena Vista Test Still Fishes Pipe

Honolulu Oil Co. is still fishing drill pipe in its projected deep test of the Buena Vista Hills. With bottom at 5987 ft., the hole caved while coming out of the hole, freezing the string. Plans of the company are to continue drilling as long as mechanically possible unless productive sands are encountered in the lower Miocene or Eocene.

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Superior Locates Two More Outposts

Location for two additional outposts, within a short distance of the company's currently drilling Riggs No. 1, shows the favor with which Superior Oil Co. looks upon the area lying a mile northwest of present production at Rio Bravo.

With Riggs No. 1 drilling near 11,100 ft. at which point the drill is yet above the Rio Bravo oil sand, the company is apparently assured that additional locations in the northwest area are warranted. The proposed wells are Bohna No. 1, near the east quarter corner of sec. 20, 28-25, and Devine No. 1 near the west quarter corner of sec. 21,28-25. The Riggs well is in the southwest corner of sec. 21.

At the north flank of presently proved production, Superior finished Rudnick No. 2 flowing a 1600 bbl. rate of clean 39 gravity oil through a ½-in. bean. Slightly more than two million cu. ft. of gas came with the flow. Roe No. 2 was completed from 11,375 ft. flowing 1558 bbls. of 39.3 gravity oil. The Roe well, located near the west quarter corner of sec. 27,28-25 found the top of the Rio Bravo oil sand at 11,140 ft. at which point it is 19 ft. higher than any other well.

While no information is available as to the position of Riggs No. 1 on the field structure, it is believed that the northwest current activity will indicate a drop in the high. Even if the Roe well is considered to be the top of the structure, it still indicates that the field is much longer than was originally believed. Success in the new wells will call for drilling by Barnsdall, Wilshire, Signal, Universal, Mohawk and Tide Water, none of whom have up until the present been in the Rio Bravo play. All Rio Bravo development to date has been done by Superior, Union, General Petroleum and Getty.

Bishop Abandons Rio Vista Well

In sec. 21,4n-3e in the Rio Vista area of Sacramento county, Bishop Oil Co. has abandoned Willmar No. 1. Bottomed in gray sand at 4140 ft. after topping the Emigh shale at 3630 ft., the Green sand at 4004 ft. and the Ione sand at 4100 ft., the well flowed salt water on test at bottom. After shooting away the lower section of the liner with Nitro to obtain an effective wall for a cement plug at 4078 ft. the well again tested wet and at the last report was in process of official abandonment.

Standard Oil Co. drilled Rio Vista State No. 1 to 1035 ft. in sec. 31 of the township and is setting a whipstock to straighten the hole.

In the La Honda area of San Mateo county, Ra-Lite Petroleum Inc. is drilling Bell No. 5 at 300 ft. in sec. 16,7s-4w. At Half Moon Bay, Wilshire Oil Co. abandoned Cowell No. 3 after carrying to 1954 ft. without finding the sand from which Nos. 1 and 2 produced a small amount of high gravity oil.

Merced county is being drilled by Don Pedro Oil Co.'s well No. 1 in sec. 9, 6s-9e. At last report operators were preparing to run casing in the 820 ft. hole.

Trico Oil Try Plans Eocene Test

Tide Water Associated Oil Co.'s Daniels No. 35, first oil try in the Trico area since 1938 is drilling in hard shale at 10,800 ft. after marking the top of the barren Vedder at 10,315 ft. Located in sec. 22,24-23 at the north edge of the Trico gas field, the well is 120 ft. lower structurally than the nearby 11,465 ft. Morris No. 1 which Standard Oil Co. drilled in 1938.

Plans for the Tide Water well call for a complete exploration of the Eocene section, sands of which have been found in the central portions of the Valley but which have never been determined to be commercial. It is believed that Morris No. 1 encountered Eocene sands at bottom but which were never tested prior to the well's abandonment due to mechanical difficulties.

Eocene sands which showed promise were also found at 15,000 ft. in Continental Oil Co.'s KCL No. A-2 at Wasco, some 12 miles south of the present driller. This well was plugged to first test upper stage showings which yielded a 3000 bbl. flow from 13,175 ft. and which as a consequence has never been tested in the bottom section of the hole. It has long been felt that there is a productive Eocene sand untested in the Wasco field.

It is the continued hope of the deep drillers to find an Eocene accumulation in the central or eastern section of the Valley. The logical search for the sands will be for a shoreline condition since the sands which are outcropped in the west are not found in the eastern part of the Valley and the basement is known to rise sharply in an easterly direction from the valley floor.

Abandoned at 9000 Feet North Cantua Creek Well

J. E. Logan, Jr., abandoned his wildcat at the northerly end of the Cantua Creek play at the top of the Moreno, 9000 ft. The well again demonstrated the monoclinal character of the area by topping all formations rather high. In the order of their occurrence the following markers were logged. Temblor, 5430 ft.; Kreyenhagen, 6830 ft.; Eocene sand, 7790 ft. and Cretaceous, 8985 ft.

Los Angeles Basin

Wood-Mellon Centers Basin Wildcat Interest

Much interest is being displayed in the wildcat wells drilling in Los Angeles and Orange counties. Of particular importance at the present time is Wood-Mellon Oil Co.'s well at the northeast corner of Figueroa St. and Victoria Ave., which is being deepened to test the 7th and 8th Callender zone equivalents before testing electric log showings between 3150 and 3350 ft. Wall samples taken in the upper interval showed oil which may or may not be due to contamination from oil circulated while trying to loosen a drill pipe fish. At last reported depth, 6717 ft., the well correlated favorably with the westerly portion of Dominguez according to company officials.

In the Newhall area, British American Oil Producing Co. failed to complete Edwina No. 1 after plugging the 6196 ft hole to 5834 ft. and perforating casing at intervals below 5390 ft. Although gas and a trace of oil was recovered during swabbing and bailing, it now seems doubtful if production can be obtained at these levels. Much difficulty was occasioned by excessive sand entry during tests.

R. E. Havenstrite's Lincoln No. 1, testing Del Valle Anticline in sec. 16,4n-17w near Castaic, is drilling below 4900 ft. and is yet too shallow to be critical.

Continental Oil Co.'s second test of Reservoir Anticline at the northwest end of San Fernando Valley, Howell No. 2, at 2200 ft. is also too shallow to be interesting at the moment.

Despite many rumors circulated to the effect that Union Oil Co.'s Sansinena No. 12 in the hills northwest of La Habra has encountered good showings in shale, Union Oil Co. has abandoned the test at 5698 ft.

Southeast of the Union well, in sec. 9,3-10, Security Land and Water Co. is drilling Security No. 1 at 2730 ft.

Production test now under way in Casa Grande Oil Co.'s Lopez-Lundy No. 1 near San Fernando is recovering water with traces of heavy oil. The well was drilled to 3785 ft. and has 4¾ in. casing cemented at 3100 ft. which was perforated in the hole with 210 holes from 2910-2250 ft.

Southeast of the Casa Grande project is the Geo. G. Parry well which is standing idle after drilling to 4215 ft. This one found no showings at all.

A mile south of the Montebello oil field, on Durfee Road, Cal-Pico Oil Co. is below 3478 ft. in Beach No. 1. The well seeks a structure paralleling the neighboring field.

Lindly C. Morton gave up his try to find production a mile and a half southeast of Anaheim when he abandoned Thomas No. 1 at 4450 ft. The showings encountered in other wells in the area did not appear in this one.

Rolling Hills Petroleum Co. is cleaning out its 6580 ft. Weston No. 1 at the north end of the Palos Verdes Hills for another try at completion. A 4¾ in. liner is cemented at 6470 ft.

R. T. Colter has had trouble in cleaning out the old Royal Land Co. well in sec. 8,4n-17w which he now calls Exploration No. 1. The hole, bottomed at 1338 ft., caves badly at 1100 ft.

Athens Looks Like Drilling Boom Near

From the appearance of the Thorley Oil Co. deep test of the Athens field, that area will soon be the scene of a drilling boom. A water shut-off OK has just been obtained on casing set at the top of the O'Dea zone at 7850 ft. after which a formation test of the hole open to 8011 ft. resulted in an estimated 1000 bbl. flow of clean 30 gravity oil. A few more cores will be taken before a liner is run for final completion.

Divided into town lots, the area offers an opportunity for the drilling of many wells by independent companies and should result in a rather healthy type of development.

E. Coyote Becomes L. A. Basin Hot Spot

The Golden and Carolina St. section of the old East Coyote field has, in recent weeks, become just about the hottest spot in the Los Angeles Basin. Here, on a small scale, is exactly what independent operators have been looking for; good production of marketable oil at low cost.

Responsible for the new development is Master Petroleum Co. which a few months ago took over a group of as sorry looking cats and dogs as anyone could wish. The company's first action was to deepen Wright No. 1 in search of a prolific new zone. Failing to find one in drilling to 5500 ft., the hole was plugged back to 4250 ft. and casing gun per-

LOS ANGELES BASIN WILDCATS

Area	Well	No.	Section	Depth	Status
Athens	Melrose Pet. Co.	1	12, 3-14		Rig
Castaic	Colter, R. T., Explor.	1	8, 4-17	1338	Cleaning out
	Havenstrite, R. E., Lincoln	1	16, 4-17	4910	Drilling
	Worland C. C., Jenkins-Owens	1	18, 5-16	2231	Drilling
Dominguez, West	Wood-Mellon Oil Co., Wood	1	31, 3-13	6586	Drilling
Inglewood	Vanguard Oil Co., L.A.I.	1	29, 2-14	1041	Idle
La Habra	Security Land & Water Co.	1	9, 3-10	2730	Drilling
	Union Oil Co., Sansinena	12	31, 3-10	5570	Drilling
Mint Canyon	Redwood Oil Co., Mitchell	2	22, 4-15	925	Idle
Newhall	British-American Oil Prod. Co., Edwina	1	14, 3-16	6196	Idle
	Canyon Oil Co., Sanborn	1	6, 3-16		Rig
	Consolidated Pet. Co., Needham	4	13, 3-16	4398	Idle
	Creighton Hammon Synd., C.H.	1	17, 3-16	860	Drilling
Palos Verdes	Rolling Hills Pet.	1	27, 4-14	6580	Milling on iron
San Fernando	Casa Grande Oil Co., Lopez-Lundy	1	1, 2-15	3785	Bailing
	Continental Oil Co., Howell	2	35, 3-16	2004	Drilling
	Parry, Geo. G., Moynier-Parry	1	6, 2-14	4216	Idle
West Whittier	Cal. Pico Oil Co., Beach	1	7, 2-11	3478	Drilling
	Orange County				
Anaheim	Morton, Lindley C., Thomas	1	23, 4-10	4455	Abandoned
Costa Mesa	Thompson, Milton N., Banning	1	9, 6-10	5625	Idle
Garden Grove	Bird & Chambers	1	31, 4-10	1250	Idle

NORTHERN COUNTIES WILDCATS

County	Well	No.	Section	Depth	Status
Madera	Blake, Thos. M., Arnold	1	22, 10s-17e	3204	Idle
Merced	Don Pedro Oil Co.	1	9, 6s-9e	820	Drilling
Monterey	Loma Grande Oil Co., Corey	1	23, 24s-10e	1450	Drilling
	Priest Valley Pet. Co., Greve	1	22, 20s-12e	2800	Idle
Sacramento	Bishop Oil Co., Willmar	1	21, 4n-3e	4140	Abandoning
	Standard Oil Co., Rio Vista State	1	31, 4n-3e	1036	Drilling
San Mateo	Ra-Lite Petroleum, Inc., Bell	5	16, 7s-4w	294	Drilling
	Wilshire Oil Co., Cowell	3	17, 6s-5w	1954	Abandoned

forated from 4215 to 4240 ft. from which interval production netted about 100 bbls. a day.

Wright No. 1 caused no furor in the industry but Master's next well, Lemke No. 1, deepened only a few feet to take in the same horizon, pumped over 400 bbls. stirring up no little interest.

Since the last mentioned well started the ball rolling, Master has finished two more, Lemke No. 3 and Mathis No. 1, both in excess of 400 bbls. and is now installing a pump on a third, Lemke No. 2.

Each of these entailed only a low cost redrill job from about 3800 ft. to 4250 ft.

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where a 4¾ in. liner was cemented and gun perforated from 4210 ft. to 4240 ft.

Efforts of other operators to duplicate Master's success have so far fallen short of the mark. Redrilling Anderson No. 5, located across Golden Ave. to the north from the discovery area, Hathaway Co. in approximately the same interval obtained 50 bbls. Fred Garliepp redrilled the nearly 30 year old Juanita Yorba No. 3 to the Anaheim (upper) zone at 3350 ft. obtaining only a small intermittent yield. Bryan-Pacific Oil Co. drilled a grass roots job on the Wallop property to the south but seems not to have encountered the Lemke sand as very little fluid enters the hole at present depth, 4242 ft. Tentative plans call for deepening.

Believing that all the good production is not on Master Petroleum property, Hathaway Co. plans to drill a new well on its Johnson lease. Barth Oil Producers, Inc. has derrick up for Queyrel No. 1 and Metro Petroleum Co. is preparing to drill on the Robertson property.

Heads of the companies active in the new play are: Master Petroleum Co., George Terry; Bryan Pacific Oil Co., Jack Bryan; Metro Petroleum Co., Bob Berkey; Hathaway Co., the Hathaway brothers; Barth Oil Producers, John Barth.

Tentative drilling plans are being formulated by Kern Oil Co. and Graham & Loftus Oil Co. both of which hold properties that may be good in the Lemke zone.

Cuts of Lemke zone completions have ranged from 1.0% to 10.0% while the gravity of the oil varies from 22 to 24 degrees, A.P.I.

Pemberton Opens Consulting Office

J. R. Pemberton, recently retired from eight years of service as Oil Umpire of California, has opened offices in the Petroleum Building where he is engaging in consulting geological, tax appraisal and valuation work.

Born in Los Angeles, Mr. Pemberton, familiarly known as "Bill," graduated in geology from Stanford University in 1909 where he remained another year as instructor. The next five years were spent in the employ of the Argentine government classifying public lands in Patagonia, after which he returned to California to do geological work for Ventura Refining Co. for two years.

Leaving Ventura Refining Co., Mr. Pemberton associated himself with William B. Thompson for whom he developed over a seven year period a daily production in Oklahoma of more than 5000 bbls a day. With the sale of the Thompson properties to Continental Oil Co. in 1923, he again returned to his home state, immediately joining the geological staff of the Doheny enterprises where he remained until the fall of 1931 when he resigned as manager of production and exploration. Early the following year Mr. Pemberton accepted the post of Oil Umpire from which he retired to engage in the profession of his choice.

Beside his thorough knowledge and keen interest in all phases of oil production, Bill is a man of many and varied talents. An enthusiastic yachtsman, his "Kinkajou" serves as a working base for the indulgence of his other hobbies, ornithology and color moving picture photoplay. The results of this combination, together with his side comments which in many respects are no less colorful than his pictures, make him much in demand as a speaker where ever oil men congregate.

Montebello Deepening Campaign Continues

The deepening campaign inaugurated at West Montebello two months ago is still continuing at a lively pace with ten wells actually working despite a fair number of recompletions. Initial production in the 8-3 zone ranges from a 60 bbl. wet pumper to 1000 bbls. clean depending on location and mechanical condition of the individual well.

Turf Oil Testing Potrero Zinns Zone

Turf Oil Co. is testing an equivalent of the Athens-Rosecrans Zinns zone in its deep well on the Hollywood Turf Club property at Potrero. The present interval, 7200-7310 ft., was perforated after tests of the O'Dea zone at 8400 ft. resulted in a flow of gas with a little 54 gravity oil and a trial at 4800 ft. recovered water.

Tide Water Associated Oil Co., whose wildcatting 13 years ago discovered the field, is preparing to deepen Cypress No. 3 while Basin Oil Co., which revived the area two years ago, is perforating Potrero C-9 above bottom at 3756 ft. and is preparing to drill No. 8.

Kelly & Sons Complete Big Rosecrans Producer

Another big well was credited to the account of the south Rosecrans field when Thos. Kelley & Sons, Inc. brought in McMillen Comm. No. 3 for a yield estimated at 2500 bbls. a day. Located at the southeast corner of Compton Blvd. and Main St., the well is open from 7330 ft. to 7821 ft. McMillen No. 1, a much smaller producer, is being perforated between 7200 and 7450 ft.

Coastal District

Republic Pet. Finds Gaviota Vaqueros Wet

Republic Petroleum Co. is abandoning its Hollister No. 1 on the Santa Barbara coast west of Gaviota after a formation test of Vaqueros sand cored from 3600 to 3630 ft. recovered only salt water. The well was located in projected sec.36,5-33 on a previously untested anticline east of the group of wildcats drilled by Western Gulf Oil Co., Gaviota Oil Co. and Wilshire Oil Co.

C. C. M. O. Co. Completes 340 Bbl. Rincon Well

Chanslor-Canfield Midway Oil Co., petroleum producing subsidiary of Santa Fe Railroad, obtained another good Rincon producer in Hobson No. B-32 which it brought in flowing 340 bbls. a day of 30 gravity oil cutting less than 1.0%. The hole was drilled to 4005 ft. and plugged to 3830 ft. where casing was cemented. Following its usual procedure in this field, the company gun-perforated the water string opposite productive sands and landed a gravel-wrapped perforated liner inside.

Next completion for C.C.M.O. will be Hobson No. B-33 which is coring oil sand at 3800 ft.

In the near-by San Miguelito field, Continental Oil Co. is preparing to complete Grubb No. 17 with bottom at 6845 ft. and casing cemented at 5635 ft.

British American Gets New Avenue Producer

British American Oil Producing Co. chalked up another Ventura Avenue success in the completion of Hartman No. 10 for an initial of 435 bbls. through a 20/64 in. bean. Bottomed at 8711 ft., the hole is open at intervals below 8075 ft.

Hard luck struck the company when casing collapsed in Barnard No. 1 just before it was to be tested for production. The 9490 ft. hole is being redrilled from 8330 ft.

Another operator to encounter hard luck was Lloyd Corp. Drill pipe stuck with bottom at 8936 ft. and the well tried to blow out when oil was circulated to loosen the fish. After some difficulty, the gas pressure was killed and the fish is being cut out.

Latest major company completion was Shell Oil Co.'s Taylor No. 120 which is now beaned back after setting a potential of nearly 3500 bbls.

G. P. Geologizes Santa Cruz Island

If current rumors are to be believed, General Petroleum Corp. is studying the geology of Santa Cruz Island with a view to its oil possibilities.

Santa Cruz is one of the larger islands in the Channel Group, being about 25 miles long and paralleling the coast line 25 miles due south of Santa Barbara. Much of its surface is covered with Volcanics of Miocene age but towards its center and westerly end there are large exposures of Eocene rocks as well as pre-Franciscan meta-sediments and granite. In several localities formations of middle and lower Miocene outcrop.

Eight years ago Standard Oil Co. drilled a 6287 ft. dry hole on Santa Rosa Island which lies west of Santa Cruz.

Arroyo Grande Well Cements Water String

With bottom at 3330 ft., California Fuel Oil Co. has cemented casing at 3070 ft. in its Elberta No. 3 in sec. 5,32-13 near Arroyo Grande in San Luis Obispo county. The location is east of the old Tiber field and adjoins Elberta Nos. 1 and 2 which produced a small amount of oil.

Texas Drilling Elwood Wildcat

After cementing surface casing at 576 ft., The Texas Co. is again under way in Bishop No. 1, its only active well in the entire Coastal district. Located north of the State Highway and just east of the Elwood field, the project will test an hither-to untried structure.

Betteravia Test Still Is Drilling

Union Oil Co., at last reports, was still making hole in Pezzoni No. 2 in the Betteravia area of Santa Maria Valley. Located in sec. 33,10-35 north of No. 1 which was abandoned in Franciscan at 2242 ft. two months ago, the second try is now down over 4500 ft. with no apparent signs of the basement yet.

East Ojai Well Pumps 30 Gravity Oil

Completing Coronet No. 1 on the beam, Van Acker & Havlin obtained a steady yield of 50 bbls. a day of better than 30 gravity oil. The project was taken over from Coronet Oil Co. by the present operators and deepened from 2300 ft. to 2662 ft. where it was finished in the nearly 700 ft. of oil bearing formations open below 2008 ft.

Located in the old producing area east of Ojai, Coronet Oil Co. originally completed the well for about 10 bbls., the mud used as circulating fluid while drilling seeming to have "mudded off" the oil sands. During deepening operations, heavy oil was circulated to avoid the ill effects of the mud.

The partners, Dr. F. M. Pottenger, S. H. Havlin and Robert Van Acker, are forming a corporation, the Norwood Oil Co., to operate their joint holdings and drill another well, location for which is already being graded.

COASTAL COUNTIES WILDCATS

Area	Well	No.	Section	Depth	Status
Santa Barbara County					
Betteravia	Union Oil Co., Pezzoni	2	33, 10-35	4460	Drilling
Elwood	The Texas Co., Bishop	1	13, 4-29	576	Drilling
Gaviota	Republic Pet. Co., Hollister	1	36, 5-33	3530	Abandoning
Santa Rita Hills	Tidewater Assoc. Oil Co., Souza	1	12, 6-33	324	Drilling
Summerland	Barnato Group, The, Hyland	1	16, 4-26	3300	Idle
San Luis Obispo County					
Arroyo Grande	California Fuel Oil Co., Elberta	3	5, 32-13	3330	Drilling
Elkhorn	Calif. Pet. Prod., Irons	1	19, 10-24	2527	Idle
Huasna	Superior Oil Co., Tar Springs	1	24, 32-14	4118	Drilling
Ventura County					
Conejo	Sulphur Springs Oil Co., Janss	1	33, 2-19	4508	Idle
Ojai	Van Acker & Havelin, Coronet	1	17, 4-21	2697	Pumping
	Van Acker & Havelin, Coronet	2	17, 4-21		Grading
Santa Paula	Per-Col Oil Co., Anlauf	6	21, 4-21	1445	Idle
Santa Susana	K. C. Oil Co., Marr	1	32, 3-17	1716	Idle
Sespe	English, L. A., Lankershim	3	13, 4-9	2765	Drilling
	G. E. Development Co.	7	13, 4-19	895	Idle
	Merchants Pet. Co., Cochrane	8	1, 4-20	2433	Drilling
	Riley, Irene Burson	1	18, 4-19	375	Idle
	Rio Hondo Oil Co., Cosby	1	14, 4-19	1650	Drilling

Honor New C. N. G. A. President Announce Long Beach Meeting

Honoring its general manager, L. V. Cassaday, on the occasion of his installation as president of the California Natural Gasoline Association for the year 1940-41, the Lomita Gasoline Co. tendered a dinner to that association's board of directors and committee chairmen, July 9 at the Pacific Coast Club, Long Beach, Calif. The annual directors' meeting followed.

With 30 men in attendance, the meeting was called to order by P. S. Magruder of the General Petroleum Corp., retiring president, who received unanimous expression of appreciation from those present for his administration of the association's affairs. Mr. Magruder then presented the gavel to President Cassaday who conducted the meeting.

J. B. Taylor of the Signal Oil and Gas Co. announced the program for the association's August meeting to be held at the Pacific Coast Club, Long Beach, Calif., Aug. 7 which will consist of three events. Members of the association will be taken on a tour of the newly completed Long Beach and Los Angeles Harbors at 4 o'clock in the afternoon through courtesy of the Long Beach Harbor Commission. This will be followed by the regular monthly association dinner at 6 in the Pacific Coast Club dining rooms. Following dinner a program will be presented during which Dr. K. Korpi of the Union Oil Co. of California will present a paper titled "Natural Gasoline and Its Relation to Aviation Gasoline" while the final event will be motion pictures in color made by the Vultee Aircraft Co. of actual test flights of military aircraft. Jack Bailhe, publicity director of the Vultee Aircraft Co. will present a discussion in which American military planes will be compared with those of foreign nations; a comparison of equipment and personnel; a discussion concerning the life of planes in combat, replacement and training of personnel, etc.

Left to Right along left outside of table: R. C. Wheeler, director, General Petroleum Corp.; O. C. Field, director, O. C. Field Gasoline Corp.; R. D. Gibbs, director, Union Oil Co. of Calif.; J. C. Burks, director, O. C. Field Gasoline Corp.; C. D. Gard, director, Union Oil Co. of Calif.; F. A. E. Lowell, director, Del Rey Oil & Gas Co.; John Rogers, director, The Cooper-Bessemer Co. Left to Right along left inside of table: C. S. Beard, Chairman Taft Chapter, C. C. M. O. Co.; W. A. Kirk, director, California Southern Oil Co.; H. A. Leedy, chairman, entertainment committee, Crane Co.; H. M. Paulsen, director, Bankline-Norwalk Co.; W. H. Kraft, director, Honolulu Oil Corp., Ltd. Left to Right along right inside of table: G. C. McLaren, director, Standard Oil Co. of Calif. M. W. Kibre, chairman, technical committee, General Petroleum Corp.; J. B. Taylor, chairman, program and fall meeting committees, Signal Oil & Gas Co.; M. L. Arnold, director, Richfield Oil Corp.; F. E. Davie, director, Shell Oil Co. Inc.; R. W. Heath, director, Signal Oil & Gas Co.

Left to Right along right outside of table: J. S. Fluor, Jr., director, Fluor Corp.; H. R. Linhoff, director, Richfield Oil Corp.; R. S. Tulin, director, Shell Oil Co. Inc.; F. J. Colton, director, Tide Water Associated Oil Co.; Harry Fiske, director, Ingersoll-Rand Co.; T. L. Taggart, director, Standard Oil Co. of Calif.; L. C. Rowson, chairman, auditing committee, The Texas Co. Left to Right, standing rear of table: G. L. Tyler, secretary-treasurer; P. S. Magruder, director and retiring president, General Pet. Corp.; L. V. Cassaday, president, Lomita Gasoline Co.; W. C. Dayhuff, vice-president, Standard Oil Co. of Calif., and J. H. Kunkel, chairman, publicity committee, public relations counsel.

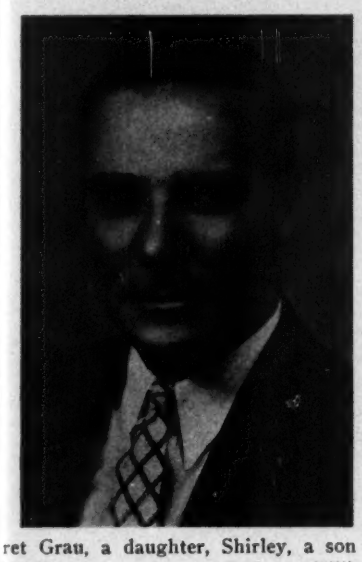
comparison of equipment and personnel; a discussion concerning the life of planes in combat, replacement and training of personnel, etc.

In connection with the interesting program to be presented, President Cassaday pointed out that C.N.G.A. meetings are open to all interested parties.

Herbert E. Grau Dies After Brief Illness

Herbert E. Grau, oil tool manufacturing executive passed away July 12, after a short illness.

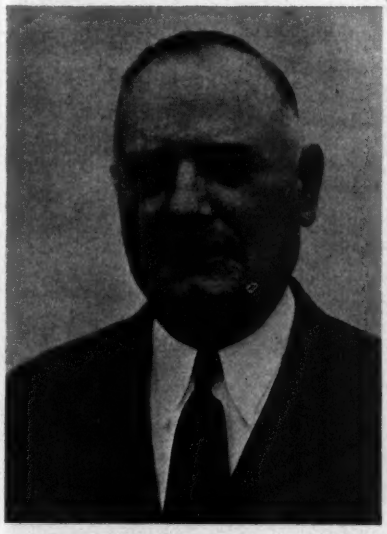
Mr. Grau was well known in oil tool manufacturing circles, and in the petroleum industry in California and and the Mid-Continent. He was chief engineer and plant manager for the Oil Tool Division of Byron Jackson Co., with which company he became affiliated in 1928.



A native of New York, he came to California during the first World War, being employed in ship building at San Diego, later held the position of plant superintendent of Union Tool Co. (now National Supply Co. at Torrance.

Mr. Grau is survived by his widow, Margaret Grau, a daughter, Shirley, a son Herbert Stanley, father William A., and two brothers, William S. and Eugene Grau.

W. S. Proctor Represents O-C-T in California

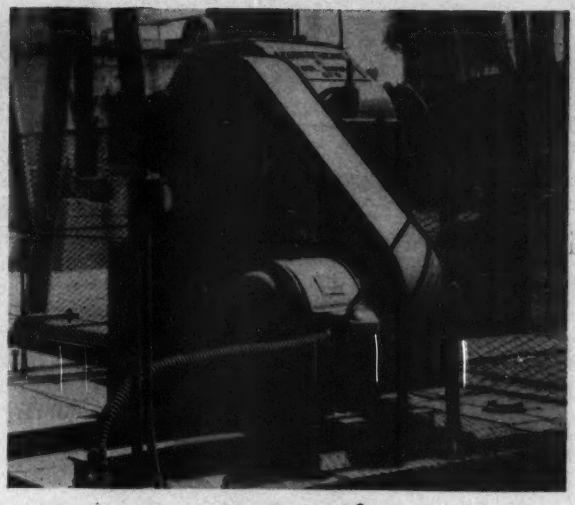


Oil Center Tool Co. Houston, Texas has appointed W. S. Proctor as its factory representative in California recently.

For fourteen years prior to joining Oil Center Tool Co., Mr. Proctor was engaged in oil field equipment sales work in the Gulg Coast and Mid-Continent areas. He has established residence in Santa Ana, California, and will maintain offices in Los Angeles.

Long Beach Field Development Told

A small well was recently completed at 29th and California Sts. in the Long Beach field by R. W. Jerman of deep hole fame. Producing a 90 ft. interval above bottom at 3275 ft., the well, called Knight No. 4, pumps about 50 bbls. a day.



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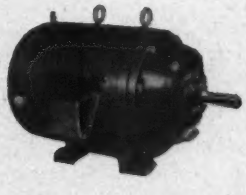
From start to finish, electric drive with G-E squirrel-cage induction motors gives you economical pumping-rig drive.

Motors of this type, simple in design and the least expensive you can buy, are available in several types to meet any pumping condition. Easy to install, they can usually be mounted directly on the rig. G-E well-pumping motors are built for long life, and need only routine inspection and lubrication to keep them in good running condition for many years. This means long-time service (small annual depreciation) and low maintenance expense.

The life of the motor isn't limited to the life of the well. If the load falls off at one well, or if the well is abandoned, just move the rig to another suitable location, connect it again, and you're ready to start on another pump job.

G-E splashproof motor, for well pumping under mild weather conditions.



G-E totally enclosed, fan-cooled motor, recommended for any outdoor service.

General Electric motors are known throughout the oil industry. You can't go wrong whether you buy them directly or specify them at the supply house. And remember, G-E oil-field specialists will be glad to study your particular pumping requirements and make recommendations. They know western field conditions. General Electric, Schenectady, N. Y.

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6545

GENERAL ELECTRIC

Baker Oil Tools New Home Features Big Expansion Program

The modern structure illustrated here was recently completed to house the general offices of Baker Oil Tools, Inc. Located at 5958 to 6012 South Boyle Ave., Los Angeles, this new building represents another milestone in the steady growth and development of this company during the past three decades, during which time periodical expansion of manufacturing, warehouse and office facilities has been necessary.

Occupying a portion of a 5-acre tract, this modern two-story building with its 8700 square feet of space represents the first unit of a comprehensive expansion program which will eventually embrace the entire plant facilities of Baker Oil Tools, Inc. at Los Angeles. At the present time, production operations are carried on at 2959 E. Slauson Ave., Huntington Park, the former location of the company's general offices.

Behind Baker Oil Tools present construction program lies a story of twenty-five years of consistent service and contribution to the oil industry. Step by step, the company has kept pace with the rapidly changing picture of progress and development and today, tools and devices bearing the famous Baker trade-mark are in successful use throughout every corner of the world where the search for oil is carried on.

R. C. Baker, Sr., president of the company, came to Los Angeles in 1893 as a drilling contractor and producer. He later became active in the oil business at Coalinga and in 1913 founded at Coalinga the original Baker Casing Shoe Co. Mr. Baker was, and is, considered one of the oil industry's foremost pioneers and his many inventions have played an important part in the industry's progress and development. In 1922 the company moved its headquarters and main factory to Huntington Park, Calif.

T. Sutter, who joined the company in 1922 as office manager, is now vice president and general manager, having served as secretary and treasurer, advertising manager and sales manager. Mr. Sutter, who is known throughout the oil industry as one of the most capable executives in the business, has been an im-

portant factor in the company's progress.

C. E. Whitney is vice president and manager of the company's Central Division, with headquarters at Houston, Tex. S. E. Rees, secretary and treasurer, has his offices at Los Angeles. Another veteran on the staff is C. E. Burt, chief engineer, also located at Los Angeles.

Baker products for the oil industry include a complete line of tools and devices for landing and cementing casing, well completion and well repair operations. Following are some of the more important devices making up the Baker line: Baker Cement Float Shoes, Guide Shoes, Baffle Collars, Wash-Down Whirler Equipment, Metal "Petal" Baskets, Cement Retainers, Production Packers, Wall Scrapers and Wall Samplers, Cable Tool Core Barrels, Drill Pipe Floats and Portable Hydraulic Kelly and Pipe Straighteners.

In addition to its Los Angeles office and factory and the original plant at Coalinga, Calif., Baker Oil Tools has established manufacturing plants at Houston, Texas, and St. Louis, Mo., and maintains warehouses and branch sales offices at Bakersfield, Taft, and Ventura, Calif.; Odessa and Kilgore, Texas; Tulsa and Oklahoma City, Okla.; Olney, Ill.; Harvey and Scott, La., and Casper, Wyo. Export sales offices are also maintained in New York City.

Fred Karl Joins Daniel Orifice Fitting Co.

Fred W. Karl, recently with the J. S. Abercrombie Co. at Old Ocean, Texas, has joined the Daniel Orifice Fitting Co. of Los Angeles and Houston, as chief engineer. He is admirably suited to fulfill this position by reason of his wide engineering experience in the Mid-Continent region.

In his association with the J. S. Abercrombie Old Ocean pressure maintenance system, which is the largest single company operation of its kind, it was necessary for Mr. Karl to do a considerable amount of original work in orifice meter measurements. He was primarily concerned with gas under very high pressure, and the equipment used in the system had to be capable of withstanding working pressures up to 5000 pounds.

Among other engineering achievements, Mr. Karl was in charge of a successful salt-water disposal experiment in the East Texas region while associated with the Gulf Oil Co. This particular operation was of a cooperative nature, fourteen major companies being involved. Prior to these later experiences Mr. Karl had received his engineering degree from Columbia University, and had spent a number of years in the Mid-Continent region with the A. M. Byers Co.

Mr. Karl will make his headquarters at Los Angeles but will divide his time between the Los Angeles plant and the Houston plant, which has recently been completed.

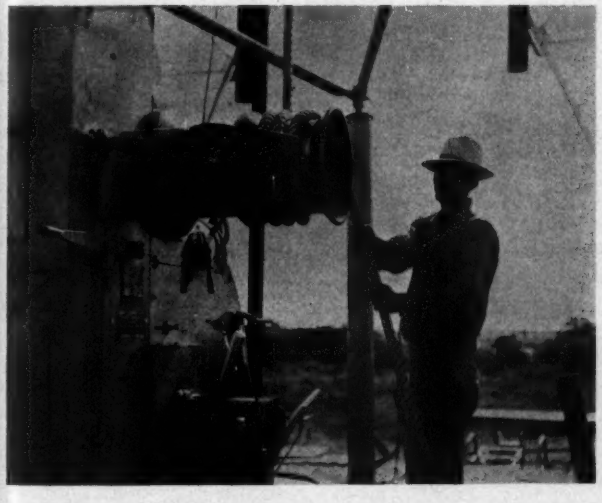
Hollanders Present Gavel to Nomads

At the regular monthly meeting of the Nomads in Los Angeles, July 10, a gavel was presented by Erno Bonebakker, B. Bongers and F. W. Van Bilderbeek, all of the B. P. M. interests, as a token of appreciation for the courtesies extended to them by the Nomads during their stay in California. The gavel was accepted by Ted Sutter, president of the Los Angeles Chapter of Nomads who explained that it would be used by succeeding presidents as they came into office. On a gold band around the head of the gavel was the inscription "Ann Onze Zwervende Vrienden" which means in English, "To Our Roaming Friends."

After the dinner which followed the usual business meeting of the club a moving picture was shown with remarks by Walton Hoag, Jr., who was until recently with the California Arabian Standard Oil Co. in the Near East. The pictures depicted the life in Saudi Arabia and around the eastern Mediterranean Sea as well as showing operating conditions in the oil fields of Saudi Arabia.

Visitors from countries outside the United States were: John S. Aston, Ultramar SAAP, Argentina; Ross E. Colley, Socony-Vacuum, Venezuela; F. W. Van Bilderbeek, B. P. M., The Hague; W. R. Young, CASOC; Charles R. McGee, "Solipema", Bahia, Brazil; H. R. Jones, CASOC; E. W. Wilkins, Mene Grande Oil Co., Venezuela; R. W. Perry, Ultramar SAAP, Argentina; R. M. McCool, Trinidad Petroleum Development Co.; Trinidad; Bernard Nicalaas van Dieman de Jel, NKPM; Dr. F. Brons, B. P. M.; G. H. L. Schepers, NKPM; E. leM. Trafford, B.P.M.; and A. C. Hall, B.P.M.

Because manufacturing firms and trade associations have been seeking information on industrial mobilization, the Bureau of Foreign and Domestic Commerce has issued a bulletin which states that such information can best be secured from the field offices of the Army and Navy.



Termed one of the most important contributions to safety of drillers and driller's helpers, a cathead safety device is said by its manufacturers to positively prevent injuries which were formerly caused by men becoming entangled in the spinning rope or catline. The safety device operates automatically on all three catheads on Wilson rigs. In case the rope winds unevenly or starts to build up to a second layer, the cathead safety trips and instantly throws out the main clutch and applies a powerful brake which stops the cathead almost instantly. This brake will also hold the load and prevent dropping any weight which might be on the catline, preventing danger of injury from this source as well. This cathead safety device is being manufactured by Wilson Manufacturing Co., Inc., of Wichita Falls, Texas.

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Oil Men's Calendar

American Society of Mechanical Engineers—Los Angeles Section—Meets 2nd Thursday Each Month—Barker Bros. Bldg., Los Angeles. Dinner at 6:30 (Optional).

August

7—Calif. Natural Gasoline Association. Pacific Coast Club, Long Beach, Calif. 4 p.m. tour of Los Angeles and Long Beach Harbor. Dinner at 6.

September

18-19-20—Annual Convention of the Pacific Coast Gas Ass'n., Hotel Del Coronado, Coronado, Calif.

October

7-12—Annual Convention of American Gas Ass'n., Atlantic City, N. J.

Freda G. Completes 2nd McKittrick Well

Freda G. Oil Co., a comparative newcomer to the area, is in the process of finishing its second well at McKittrick, Laymance No. 4. Located in sec. 20, 30-22, hole is bottomed at 1377 ft. where a liner containing 350 ft. of perforations is landed.

Otis Hoyt, operating on Union Oil property in sec. 6, overcame sand trouble in No. 1 by redrilling through the oil zone and recompleting at 2526 ft. with a gravel-wrapped liner in the hole. Production is 85 bbls. a day of 16 gravity oil cutting 5.0%.

California Crude Oil Production

Two Weeks Ended July 12, 1940

	July Daily Quota	Average Daily Production	Excess
San Joaquin Valley			
Beiridge—North	11,039	10,719	*320
Beiridge—South	2,175	2,076	*99
Buena Vista	15,986	16,637	651
Canal	5,513	5,591	78
Coalinga-E. (Eocene)	17,282	17,550	268
Coalinga—East-West	14,917	10,347	*4,570
Cole's Levee	5,590	7,081	1,491
Edison	2,250	2,363	113
Elk Hills	6,881	12,787	5,906
Fruitvale	5,651	5,632	*19
Greeley	4,216	3,922	*294
Kern Front	7,165	5,930	*1,235
Kern River	6,885	4,686	*2,199
Kettleman No. Dome	33,818	45,606	11,788
Lost Hills	3,930	3,684	*246
McKittrick	3,809	3,654	*155
Midway	36,458	40,083	3,625
Mount Poso	9,127	9,554	427
Mountain View	7,371	7,950	579
Rio Bravo	9,018	9,537	519
Round Mt. and Coffee Canyon	6,803	7,118	315
Ten Section	9,537	9,622	85
Wasco	1,673	1,503	*170
Other Fields	4,088	3,678	*410
TOTAL	231,182	247,310	16,128
Coastal Counties			
Elwood	3,385	3,560	175
Rincon	2,647	4,406	1,759
Santa Maria	5,919	3,467	*2,452
Gato Ridge	2,224	2,500	276
Santa Maria Valley	16,663	17,787	1,124
Santa Paula-Newhall	5,931	6,201	270
Ventura Avenue	32,056	34,003	1,947
Other Fields	5,179	5,799	620
TOTAL	74,004	77,723	3,719
Los Angeles Basin			
Alamitos-Seal Beach	6,975	7,109	134
Brea-Olinda	7,936	5,823	*2,113
Coyote—East	3,600	3,922	322
Coyote—West	9,628	7,784	*1,844
Domingues	17,333	21,336	4,003
El Segundo	2,087	2,267	180
Huntington Beach—New and Old	22,216	25,561	3,345
Inglewood	11,858	11,365	*493
Long Beach	38,241	44,227	5,986
Montebello	5,752	4,135	*1,617
Montebello-West End	18,110	16,057	*2,053
Playa del Rey	3,904	4,070	166
Richfield	6,918	8,850	1,932
Rosecrans-Athens	8,140	10,469	2,329
Santa Fe Springs	23,371	26,398	3,027
Torrance	5,125	4,812	*313
Torrance "34" and "D & B"	5,669	6,115	446
Wilmington	78,943	85,523	6,580
Other Fields	4,265	5,039	774
TOTAL	280,071	300,862	20,791
STATE TOTAL	585,257	625,895	40,638

*—Shortage.